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The American Civil War

Our nation's bloodiest and saddest war...from which banners still fly in the minds of some and hatreds still stain the lives of many.

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Editor/Publisher James F. Dunnigan

Art Director/Co-Editor Redmond A. Simonsen

Editorial: Christopher J. Allen, Howard Barasch, Stephen G. Bettum, Frank Davis, Bob Felice, Irad B. Hardy, David C. Isby, Albert A. Nofi, Stephen B. Patrick, Sid Sackson, John Michael Young, Kevin Zucker. *Graphic Production:* Kevin Melahn, Manfred F. Milkuhn, Marsha Treiber. *Administrative:* Kristin Anderson, Margaret Davis, Patricia Dugan, Carl Jacobsen, Linda Mosca, George Murison, Bridget Murphy, Karlene Scott, Kathy Scott, Margaret M. Scott, Kathy Tennyson, Salvatore Zito. *Game Evaluation and Research Assistance:* Martin Campion, Edward Curran, Omar DeWitt, Bruce Evans, Steve Kuklin, Steve List, Leo Niehorster, George Phillies, Tom Walczyk, Malcolm Watson.

Original Editor and Founder: Christopher Wagner

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COMING IN OUR NEXT ISSUE: The game will be Tank *(on tank-to-tank combat from the 1930's to the present) with an article on the same subject. Also, an article on naval warfare during the age of sail. Plus our regular features.*

Outgoing Mail

"Outgoing Mail" is, primarily, a response to subscriber inquiries and questions. "Outgoing Mail" is also used to let subscribers know what's going on at SPI. What we're doing and what we plan to do. All of this directly affects subscribers. "Outgoing Mail" is written, for the most part, by Jim Dunnigan. The topics to be covered are provided by reader letters as well as odds and ends generated (and often written) by other SPI people.

We are making progress on our plans for expanding and revising existing games. One of the first items to appear in this program will be an expansion module for *World War II*. This will detail optional rules, as well as, different types of games. In particular, more multi-player games. Another type of expansion module will appear in the *Tank* game to be published next issue. Because of the potential size of the *Tank* game, one part of it, the expansion module, will not be published in the magazine, but will be available free to any subscriber who sends in a stamped self-addressed envelope. The expansion module will appear in the boxed version of *Tank*. This particular use of the expansion module is brought about due to the cost of providing this four-page item in the magazine. By not providing it in every issue of the magazine we save $2,000 which we can use to devote to R&D on other games. We also have in mind revisions of existing games. Although the expansion module concept is intended to avoid the complete overhaul of major components of a game. We'll keep you posted on this project as we have more items to announce.

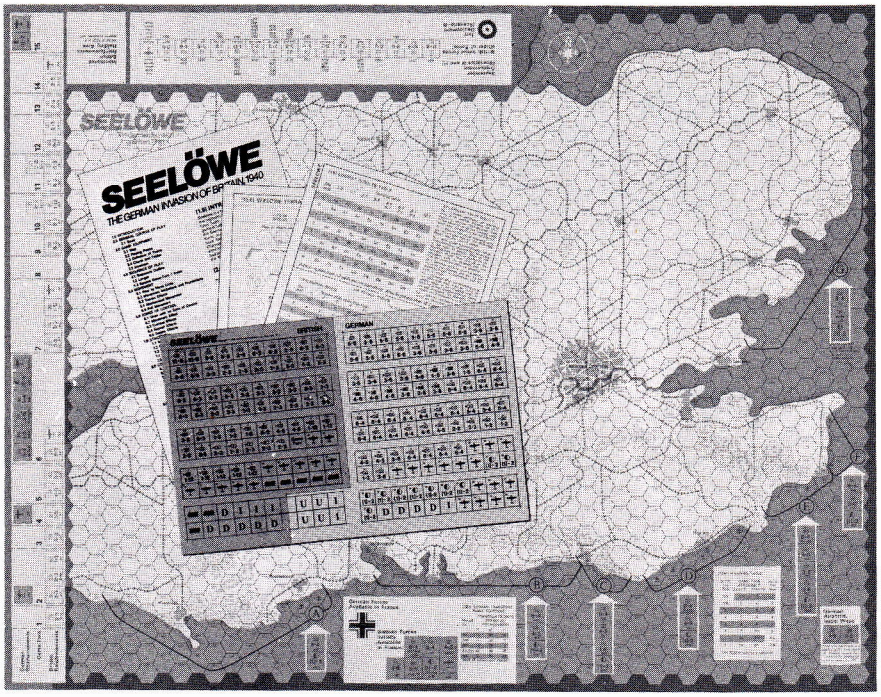
The *Tank* game to appear in the next issue will be a trail-blazer of a game. It covers tank-to-tank combat from the 1930's to the 1970's. Normally no more than twenty tanks per side are employed. Usually the tanks have three or four armored personnel carriers full of infantry with them or infantry carried directly

(continued on page 42)

Seelöwe

- **Three German Invasion Plans**
- **Paratroops and Air Forces**
- **Home Guards, Partisans, and Weather**

The German Invasion of Britain, 1940



On 21 June 1940, France capitulated at Compiegne. Hitler and the Wehrmacht were left the undisputed masters of continental Western Europe. Only the British Empire remained in arms against the Third Reich. In the summer of 1940 the British Isles lay vulnerable to invasion and conquest. A conquest that would remove for all time the threat of a future D-Day and leave Hitler free completely to pursue his dreams in the East. Of course, the invasion never was attempted. Blinded by his own preconceptions (he thought the British would accept a *partnership* in ruling the world with their "fellow Aryans") and, at heart, uneasy at the thought that a full-scale amphibious operation would subject the army to the perils of the sea, Hitler ordered plans and preparations for *Seelowe* – the Invasion of Britain – begun on 5 June principally as a means of bringing pressure on the British to come to terms. Vehemently opposed by the German Army and Navy High Commands, *Seelowe* could never have been ordered unless the Luftwaffe had won a complete victory over the RAF. However, the middle and lower operational echelons of the Wehrmacht proceeded to realistically plan and prepare for a possible cross-channel effort. The British had no choice but to take *Seelowe* at face value and their plans for the summer of '40 were based on the assumption that the "German was coming."

Seelowe is a simulation of what might have been; IF the Luftwaffe had won the Battle of Britain; IF the Royal Navy had been neutralized; and IF Hitler had overcome his own (and the High Commands') doubts. There are three basic scenarios in the game which illustrate the three most probably "what-ifs." They are: (1) The OKH Plan, or "German Dream Plan," which was the initial unvarnished Army plan. This treated the Channel as nothing more than a wide river and envisioned a broad invasion front with multiple beachheads and upwards of thirty divisions participating in the first wave. (2) The Navy Plan, or Historical Plan, which was the final operational plan for the invasion. It was basically a compromise between what the Army required and what the Navy said was possible to do. As such it satisfied neither Service, but it's what the Germans would have gone with if... (3) The July Early Invasion, or "Quickie," is a "double What-If?" It presupposes that the Germans had held troops out from the final Battle of France in June and made other advanced preparations for a July descent. The British deployment for the September scenarios and the July scenarios are based on the actual Royal Army dispositions in those months.

Seelowe is an operational-level game. The German Player maneuvers battalion, regimental and brigade-level units, the British Player uses brigade and divisional-level units on a 22" x 28" mapsheet. All hexes are numbered and each hex represents eight kilometers. Each Scenario is fifteen Game-Turns in length with each Game-Turn representing two days of real time. The terrain shown is that of southern England from Cornwall to the Wash and includes cities, ports, beaches, rough terrain, forests, moors and the major obstacle of the Thames. The major railway net of this area is also shown. The course of play is sequential with first the German Player and then the British Player maneuvering and fighting with their respective forces in an attempt to ensure the success (or failure) of the invasion.

Each scenario begins with the German first wave successfully ashore. Further German Reinforcements are subject to interference from the remnants of the RAF and from the fickle Channel weather. Most games become a race between the British build-up (subject to Luftwaffe interdiction) and inevitable counterattack and the German build-up and breakout. If the action persists beyond the tenth Game-Turn, the German finds himself faced with Home Guards and Partisans. With absolutely no historical evidence to go on, Victory Conditions for the Players are rather arbitrarily defined; obviously if the Germans overrun everything in sight or if they are thrown back into the sea, it is easy to pick a winner, anything in between is pure supposition.

In addition to the three main Scenarios there are rules governing Free Set-Up possibilities for each Scenario. This is really the height of hypothetical! It also is a very exciting variant to play since the hidden deployments of each Player can lead to extremely nasty surprises.

The game mechanics are straightforward double Movement Phase with Combat Phase intervening. Air, supply, and reinforcement functions are handled separately in the play sequence with a minimum of paperwork. As a result the game plays very quickly and normally lasts two-to-three hours before resolution. The various charts and tables necessary to conduct play are either shown on the mapboard or their own separate sheet for easy access.

SEELOWE is available (boxed) from Simulations Publications for $7.00 (price rises to $8.00 effective 1 July 74).

WAR IN THE EAST

- **The biggest game ever produced**
- **2,000 counters and a 56"x 44" map**
- **200-turn Campaign game and four Scenario games**

On 22 June 1941, began a struggle of epic proportions between Germany and Russia, which has had no equal in history. These two nations waged total war against each other with a ruthlessness not seen since the Thirty Years War. The Russian armed forces lost some 13.7 million dead and missing during the fighting, plus another 11 million civilians. The German armed forces lost some two million dead or missing plus another two million civilians killed (primarily during the last six months of the war).

War in the East is a corps/division/brigade level simulation designed to recreate the mobile battles fought back and forth over the endless steppe. The 44"x 56" mapsheet (four times the size of a normal map) covers an area from the Arctic Ocean to the Turkish border, from the Urals into Poland and Hungary. Each mapsheet hex represents thirty-three kilometers of real distance and each Game-Turn represents one week of actual time. Two-thousand die-cut counters (on five 400-unit countersheets) represent the Russian, German, Finnish, Slovak, Hungarian, Rumanian, Bulgarian, and Italian forces which took part in the struggle.

The basic mechanics belong to the *Kursk* family of games. However, the very scope of this game gives it a flavor all its own. On a given turn, each side has an average of 250 combat units on the map. As the Axis Player, you can have huge pockets of Russians and still be faced with a solid front of Russian units, often two deep. As the Russian Player, you are trading ground for time, drawing the Axis out of supply while attempting to build up reserves for a counter-offensive.

One of the outstanding facets of the game is the Russian production. The Russian Player is not committed to a set Order of Battle in the Campaign Game. He has the option to build almost anything, from anti-tank brigades to artillery corps, from infantry divisions to air armies. This is done by appropriating population and armament points toward production of a unit and then having to go through a Training Center for a set period of time. The cost and time factors involved vary with the size and type of a unit. As the Russians you are presented with many of the decisions the Soviets faced concerning production during the war. If you were to gear production toward the eventual offensive by building air, artillery and armor, in all probability the front will dissolve before these units are ready in quantity. It takes a careful balance in order to prevent this, and you are always faced with the problem of not enough people since the Axis are usually occupying most of the population centers.

Even the air battles which raged overhead are taken into account. This is done with a simple air point system, by which the players simultaneously allocate air-to-air combat missions or ground support. An initial surprise rule allows the Germans to catch the Red Air Force on the ground. The result is Axis air superiority for 1941. During 1942 and early 1943 the two air forces are relatively even and a shrewd guess would give one side a tremendous amount of ground support for a week. By late 1943, if the Russians are still around, their production of aircraft will usually overwhelm the Luftwaffe. The relative simplicity of these air rules is a minor breakthrough in game design. The importance of this part of the war is shown while leaving out all the complications one would normally expect.

Another interesting side to the game is the ability of infantry to force march. This allows the infantry to double its movement for one Game-Turn. There is, of course, the chance that the unit will dissolve on you and a sudden gap will appear in the line. During the early course of the game you have the Russians force-march away from the frontier toward a pre-determined defensive line while the Axis force-march further and further out of supply in order to catch the retreating Soviet forces. The result is that the majority of Axis units spend the first winter out of supply.

Of course, we have incorporated three factors without which this would not be a game on the war in Russia — fortifications, partisans and weather. There are special rules for all of these features. Russian infantry divisions have the ability to dig themselves in. This causes the unit to lose its Zone of Control but in return, triples the 1 Combat Point division and doubles one other infantry unit which doesn't lose its Zone of Control while stacked with it. Partisans appear by various die rolls on destroyed Russian infantry and cavalry units. And finally, the weather. There are three conditions: normal, mud and snow. The effects of weather vary with the season. To reflect the severity of the first winter on the unprepared German army there is a special frostbite rule.

To simulate the German ability to improvise and their inability to totally destroy Soviet units, we have included battlegroups. These are the remnants of destroyed divisions and corps. Not only is this done for armored units as in previous games, but also for infantry. In this way you can still have a line even after suffering tremendous casualties. The battlegroups are printed on the reverse side of the units in order to ease play.

There are four scenarios (Barbarossa, Stalingrad, Zitadelle, and the Destruction of Army Group Center) each of which lasts twenty Game-Turns. In addition there is a campaign game of *over two-hundred Game-Turns*. The Barbarossa scenario covers the early campaign. Basically, the Russians are giving ground quickly to save troops. The Germans are trying to kill units and seize the centers of population. In the Stalingrad scenario, the Germans are getting over the close call of the Soviet Winter Offensive. Although weakened, they still have the ability to break the line anywhere and often in two spots. This is the only scenario where the Germans have a chance of taking Moscow. The Russians are faced with a strong German army starting at the gates of Moscow. A very tight game ensues as the Russian attempts to plug the gaps. Zitadelle is a very interesting scenario. Because of the Soviet defensive forces, the Axis cannot hope to attack, but must fight a mobile defense. The Soviets are faced with bludgeoning their way through the Germans at terrible cost. The Destruction of Army Group Center scenario provides the Germans with a desperate situation which will tax even the best player. The campaign game allows both sides to "correct" the mistakes of history. Perhaps you can win in 1941 as the German. The myriad possible strategies which may be employed should provide many hours of contemplation and debate.

War in the East is the culmination of all Eastern Front games.

War in the East is available (boxed) from Simulations Publications for $20.

WE REGRET that *War in the East* has experienced a *further* delay (mainly due to available press time — it's printing conflicted with the printing of this issue). We've been forced to move back its shipping availability date to 30 April. We apologize for this annoying lack of timeliness on our part and ask for your indulgence. IMPORTANT: If you placed an advance order for *WITE* and have subsequently changed your mailing address, notify us immediately!

The American Civil War

1861-1865

by Albert A. Nofi

Between 1861 and 1865 the United States of America was almost torn apart in the bloodiest war in its history. In a strange conflict combining features of the Napoleonic Age with features of the Machine Age, fully 600,000 men perished fighting for sectional particularism, constitutional principle, economic self-interest and moral righteousness. And, in the end, vast changes were made in the nation, yet the nation remained unchanged. All with fateful implications for the present.

THE OUTBREAK OF THE CIVIL WAR

Ultimately, the American Civil War was the result of a constitutional crisis sparked by a question so elementary, so obvious and so logical that the "Founding Fathers" managed to completely overlook it when framing the Constitution. This question was whether or not a state had the right to dissolve the ties which bound it to the Union: in a word, secession. But if secession was the question it was by no means the issue. The entire matter might never have arisen were it not for the development of significant political differences between the Southern and the Northern and Western sections of the country. These political differences were themselves rooted in the serious economic, social and religious differences which had developed between the two sections. Moreover, these economic, social and religious differences were, in large measure, rooted in the existence of slavery in the South. And these differences seemed irresolvable. So, in the spring and summer of 1860 the United States of America began to come apart.

It is not difficult to see why things began to fall apart in mid-1860. The decenniel census was taken that year. It was also the last year in which the South held a sufficient margin of votes in the Congress to require the other sections to compromise and cooperate with it. According to the Census of 1860 the nation had some 31,400,000 inhabitants. Of these, 10,300,000, or 32.8%, lived in the South. Now 32.8% was still a considerable chunk of the national population. But 3,800,000 of those people, some 36.9% of the 32.8%, were black slaves (12.1% of the national population). And black slaves did not count as "real" people for congressional apportionment purposes. On the basis of the "Three-Fifths Compromise" established at the *Constitutional Convention* each slave counted for but 60% of a free person for purposes of taxation and representation. This effectively reduced the Southern delegation to the House of Representatives to 29.4%. Even counting in probable defections from the North and West, and the probable adherence of Border State representatives to the Southern position, there were no longer enough votes available to control the House. And the Senate had already been lost.

In 1820 there was an unspoken agreement to admit slave and free states in rough parity, to preserve the balance between the two sections of the country, the slaveholding South and the free North and West. But by the 1850's this had broken down. Most of the new land available for the establishment of states was essentially unsuited to slavery. Although the South tried to interest the rest of the country in foreign expansion with an eye towards acquiring the Carribean, no one was listening. Thus, by 1860 the South held but 40% of the seats in the Senate, with no likelihood of significant defections from the North or West and with little chance that the Border States would fully support a Southern position.

Now were it not for the existence of economic, social and religious differences between the South and the other sections, the matter would have had but little import. However, the South was terrified of the possibility that the North and West would strike out against slavery. And it was upon the backs of slaves that the entire structure of Southern life was built. Slavery had been good to some people. The South was dominated by a small planter aristocracy who held almost feudal influence over their region. Southerners had been mouthing off for years about secession, never really meaning it, never understanding that the North and West were not really upset over slavery, but that they *would* get upset over secession. Ultimately, the South became caught up in its own rhetoric. The Southerners said they would secede if any move was made against slavery. Then they labeled any position even mildly anti-slavery as a fanatically abolitionist position. And then the elections of 1860 were held.

Even before the election Lincoln's victory was apparent. This was not due to any political skill on his part or that of his party. The Republicans, a new coalition of "liberal" capitalists and small holders, had been crushingly defeated in 1856. So their chances of victory in 1860 were not good. Not good, that is, unless the opposition bungled badly. And that is precisely what happened.

First off, the opposition splintered. Then, the South failed to support the one man who might have had a chance to win. This was the Democrat, Stephen A. Douglas. Unfortunately, Douglas had once made some rather innocuous remarks concerning the ways in which a state could ban slavery without making the institution itself illegal. The South would have none of that. Instead, the Southern Democrats nominated John C. Breckinridge, the vice-president in the existing Buchanan administration. Breckinridge was a pro-slavery man. He was totally unknown outside of the South. To make matters worse, a fourth party was set up, designed to keep everybody happy. This was the Constitutional Union Party, which selected John Bell, an old Tennessee Whig with the most moderate views of all, and the least chance of winning.

The campaign was conducted with much energy but little impact, since most people voted emotionally. The result was that the election ran its inevitable course. Lincoln, with but 40% of the popular vote, collected 60% of the electoral votes. This meant that on 4 March 1861 he would be inaugurated President. And the South's rhetoric began to run away with itself. The "abolitionist" had been elected. On 30 December 1860, after consulting in secret with other Southern states, South Carolina proclaimed itself a free and sovereign country outside the bounds of the Union.

Within weeks South Carolina had been joined by Mississippi, Alabama, Georgia, Florida, Louisiana, and Texas. On 8 February 1861 six of the seceding states (the Texans were late) formed the "Confederate States of America" at a congress in Montgomery, Alabama, with a provisional constitution not unlike that of the United States except that it expressly permitted slavery (like its predecessor, it was silent on secession). Jefferson Davis of Mississippi was elected provisional president and the break was complete. But one delegate, nameless but prescient, asked if this did not mean war. He was shouted down for suggesting such a ridiculous idea.

Now, even at this late date, things might have been worked out. No blood had been shed, the South claimed it was moving reluctantly at best. President Buchanan, a "Northern gentleman of Southern sympathies," had avoided any moves likely to cause a break. And politicians, Northerners and Southerners alike, but with Senator John J. Crittenden of Kentucky in the forefront, worked at compromise. Crittenden proposed a compromise not unlike that of 1850. Slavery to be protected by a constitutional amendment; new states north of the 36°30' to be forever free; states below that line to be subject to "popular sovereignty"; and Federal enforcement of the Fugitive Slave Law. Lincoln, still not President, expressed a willingness to accept the program except the portions dealing with new states. He was adamantly opposed to the extension of slavery. And he was also intelligent enough to realize that even this compromise would only postpone the issue. Even accepting the compromise would not solve anything except the immediate situation. Thus, the break was complete.

Nevertheless, Lincoln was cautious. Even after his inauguration he moved slowly, while the Confederacy organized a government and an army. He even avoided antagonizing the Confederacy by not taking such obvious measures as refusing to accept the resignations of army and navy officers who wished to "go South" and by not taking steps to block Southern efforts to procure arms and supplies in the North. He wanted the onus of violence to be squarely on the South, even though he knew it would come to violence sooner or later. And it came to that at a half-finished fort in Charleston harbor. Lincoln had stated that he intended to continue to hold all Federal property, wherever found, even in the "seceded" states. Fort Sumter was such a property. On 12 April 1861 the South Carolina militia opened fire on the fort. The tiny garrison replied as best it could, but having been under virtual blockade for several months, possessed little ability to carry on a tenacious fight. On 13 April the fort was evacuated and surrendered to the South. Lincoln called for 75,000 volunteers to put down "combinations too powerful to be suppressed" by the ordinary mechanism of government. In the North, tens of thousands of young men answered the call. In the South, Virginia seceded, unwilling to continue its affiliation with a country which was resorting to arms to keep its citizens. After Virginia, went North Carolina, Arkansas, and Tennessee. The die was cast.

THE STRATEGY OF CIVIL WAR

Strategy is the highest realm of war. As such, it transcends purely military considerations and becomes far more a political than a military exercise. Strategy is, or rather ought to be, dictated by national political leadership, which is conversant with the purposes for which a war is being fought, as advised by military leadership, which is conversant with the technical aspects of war. Now this is all fairly straightforward. But in reality it requires two things to work: national political leadership which understands that its role is to define strategy, and military leadership which understands that its role is to advise. Unfortunately, throughout history the tendency has often been for national political leadership to let military leadership dictate strategy (sometimes, of course, national political leadership tries to dictate tactics too). This is not necessarily disastrous. But it can be. And what happens when neither national political leadership nor military leadership is willing to define strategy? During the American Civil War both situations could be found. For a time, the Union permitted military leadership to define strategy, and the result was disastrous. And for the duration of the war, the Confederacy never managed to get around to defining strategy at all.

At the highest level, answering the question "why are we fighting?", Union and Confederate strategy was obvious. The Union was fighting to preserve the Union and the Confederacy was fighting for independence from the Union. Rarely have the objectives two nations at war been so neatly opposite. In order to preserve the Union the Federal government had to invade and subdue what amounted to a functioning nation. In order to obtain its independence, the Confederacy had only to avoid being conquered. This gave the South a distinct advantage. The situation was not unlike that which confronted the Americans during the Revolutionary War of 1775-1783. In any war for independence the rebels don't so much have to win as to demonstrate that they can and will defend themselves. And this the South was definitely able to do. Yet in the end, the Confederacy lost, which raises the question of what went wrong.

Ultimately, what went wrong was that the South never enunciated a strategy for conducting the war. This was partially due to the personal shortcomings of Jefferson Davis. As national leader in time of war Davis was somewhat lacking. Lincoln had one significant asset over Davis in this job: he lacked a formal military education. Davis, a former regular army officer, a graduate of West Point and a former Secretary of War would seem almost perfect for the job of leading a nation at war. But his military background was precisely his problem. He was incapable of seeing the forest for the trees. He was too interested in the minutiae of military affairs to see the proverbial "big picture." Lincoln, utterly ignorant of military affairs except for some militia experience during the Black Hawk War of the 1830's, did have a good background in history and politics. He rarely interfered in the everyday details of running the war without compelling political reason and never in the details of administering the army. He actually started out respecting generals too much, which led to serious Union reverses in 1861-1863. But he learned fast, so that by 1863 he was beginning to see where his proper place was in the scheme of things.

We should not really blame Davis for his inability to run a nation at war. Like all of his contemporaries from military backgrounds, he had been raised on the writings of Baron Antoine Henri Jomini. Jomini, a Swiss in Napoleon's service, had worked up a huge body of material on how wars were fought. Unfortunately, Jomini completely failed to comprehend the interrelationship of the civil and military sectors in the conduct of war. This was an easy error for him to make since Napoleon had personally combined the two. But Napoleons are rare in this world and none were on hand during the American Civil War. Having imbibed Jomini at West Point, most Union and Confederate generals also failed to understand the proper relationship between war and politics, seeing them as separate spheres which did not impinge upon each other. In the end, Lincoln assumed a more active role in strategy making. Davis, hampered by his background, never did.

Ideally, Davis and Lincoln should have provided centralized strategic direction to their respective war efforts. Failing that, they could have arranged for the preparation of cooperative plans and helped coordinate the efforts of individual field commanders. At the very least, they could have appointed a commander-in-

Manpower and Losses

MANPOWER AVAILABLE

Date	*U.S.A.*	*C.S.A.*	*C.S.A./ U.S.A*
1 Jan '61	16.4(90%)	—	—
1 Jul '61	186.8(98%)	112.0(98%)	60%
1 Jan '62	575.9(83%)	351.4(72%)	61%
1 Apr '62	637.1(84%)	401.4(69%)	62%
1 Jan '63	918.2(77%)	446.6(65%)	48%
1 Jul '63	880.0(75%)	473.1(65%)	53%
1 Jan '64	860.7(72%)	481.1(60%)	55%
1 Jan '65	959.5(65%)	445.2(55%)	46%
1 Mar '65	980.1(68%)	358.7(56%)	36%

This table sets forth the numbers of men in thousands carried on the rolls of the Union and Confederate armies at various times during the war. The percent figure in parentheses following the manpower figure represents the "present and accounted for." In the Confederate army this usually was very close to the effective strength, while in the Union army this would be about 20% higher than the true effective strength due to varying bases of calculating "present and accounted for" in the two armies. The column *C.S.A./U.S.A.* gives the Confederate strength as a percentage of Union strength at the same time. Peak of Confederate strength was 498,169 men on 1 May 1863, shortly before Chancellorsville, Gettysburg, and Vicksburg. Of these some 73% were "present and accounted for." Union strength at this time was about 900,000 on paper. Peak Union strength came right at the end of the war. On 1 May 1865 there were 1,000, 516 men on the rolls, of whom 80% were "present and accounted for."

Based on very accurate Union records, and very sparse Confederate ones, losses in thousands break out thusly:

LOSSES (in thousands)

	U.S.A.	C.S.A
Battle Deaths	93.4	94.0
Disease	210.9	164.0
Total	304.4	258.0

During the course of the war roughly 600,000 people perished. But most of the deaths were not in battle or as a result of battle. Most were the result of disease.

The figures for "Battle Deaths" are for men actually killed in battle or who died of mortal wounds. The second line is for military deaths resulting from disease. The figure for Confederate losses through disease is based on a statistical calculation derived from Union experience. Considering the serious lack of medical personnel, facilities, and supplies in the Confederacy there were probably far more than 164,000 deaths from disease in the ranks. Adding in deaths among civilians a figure of about 600,000 results. For the curious, or the morbid, the Union army deaths in thousands break down thusly:

UNION CASUALTY CAUSATION
(in thousands)

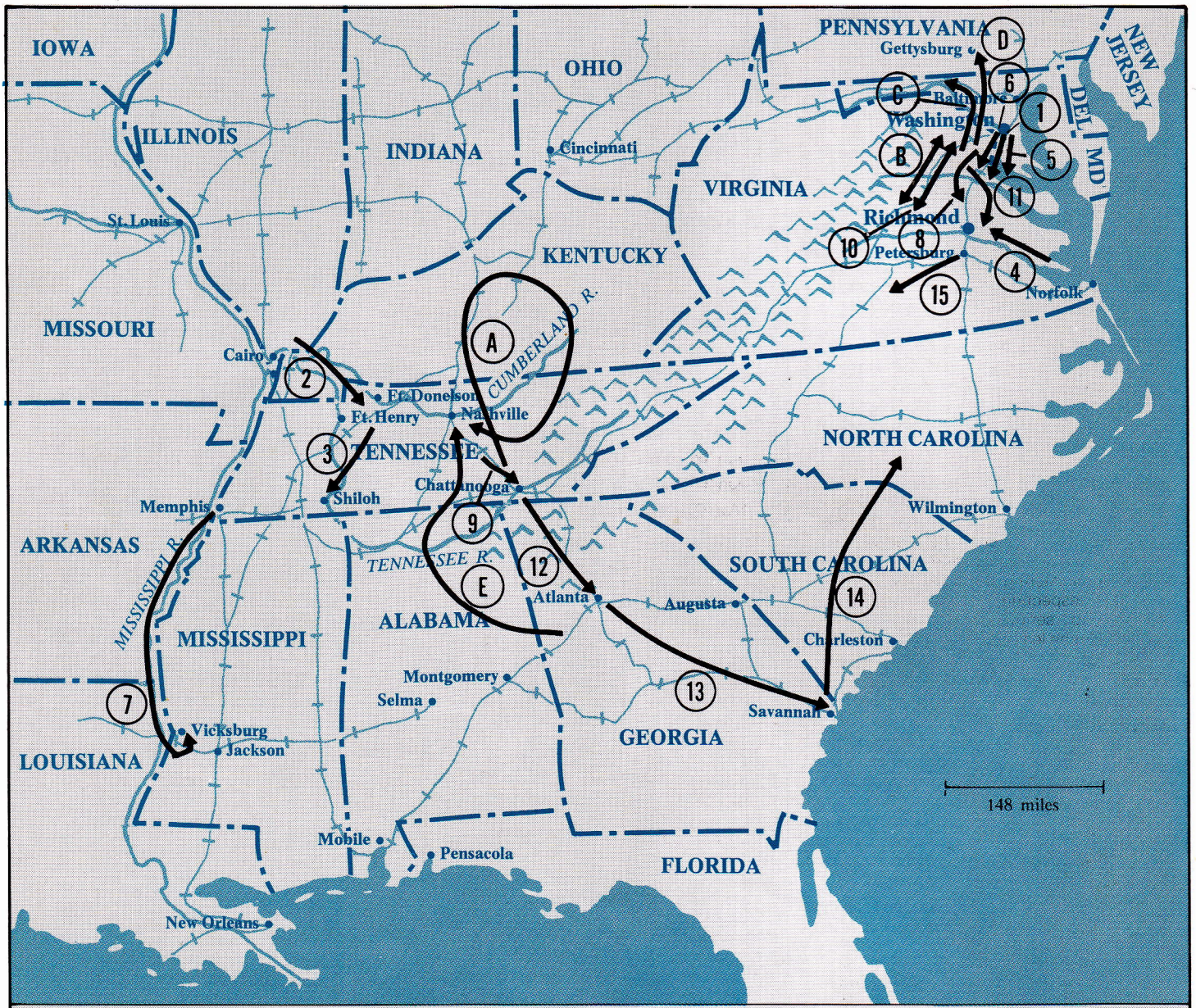
Killed in Battle	47.5
Mortal Gunshot Wounds	36.6
Mortal "Other" Wounds	0.8
Chronic Diarrhea	30.5
Typhoid Fever	27.1
Tuberculosis & Pneumonia	20.0
"Miasmic" Fevers	8.1
Dysentery	7.3
Measles	4.2
Small-pox & Varioloid	4.7
Miscellaneous	89.1
Unknown	24.2

It should be noted that the actual listing of diseases was rather inaccurate during the Civil War period as many so-called diseases were not what we would clinically call diseases today. Deaths from measles, for example, are usually attributable to pneumonia, which in those days was called "inflammation of the lungs." Miscellaneous indicates all sorts of causes, including murder, execution, drowning, and a host of minor diseases, and also deaths in Confederate prison camps, which totalled over 26,000. "Unknown" means just that; cause of death was completely unknown. Incidently, the "Mortal 'Other' Wounds" were all bayonet, knife and saber wounds.

chief to assume at least part of these functions. Lincoln started the war with a commander-in-chief. Davis got around to appointing one, Robert E. Lee, in the Winter of 1865. By then it was too late. Given these differing situations, it is not surprising that the Confederacy lost the war. It was almost lost from the start.

Confederate strategy was quite simple. It was a massive holding action, or cordon defense, designed to keep the Federal armies out of the South wherever they attempted to enter. But this wasn't really formulated. It was more or less fallen into. At the beginning of the war, when both sides were still mobilizing, Southern resources were too slender to do more than cover the frontiers with a thin line of troops. A cordon defense at this point was the only one possible. However necessary this strategy might have been in 1861, it was by no means an optimum strategy. While the South could win the war by demonstrating that the North could not win it, this sort of approach would be relying a bit too much on the political and moral collapse of the North. In a war of attrition, which is what the South ended up waging, the North held all the cards. What the South really needed was a bold strategic offensive. Though incapable of protecting everything everywhere, the South was certainly possessed of the resources to strike out against the Union during the first eighteen months of the war (July 1861-December 1862). Lacking centralized strategic direction, possessed of a defensive complex, this is precisely what the South did not undertake.

The Confederacy five times launched offensives into Union controlled territories (Jackson's Valley Campaign, 1862; Lee's Invasion of



The Principal Campaigns of the Civil War, 1861–1865

This map represents the *principal* offensive operations of the Civil War in chronological order, on a terrain and communications map of the Confederacy east of the Mississippi, with adjacent regions. Union offensives are indicated by digits and Confederate operations by letters.

1. First Bull Run Campaign, July 1861.
2. Henry-Donelson Campaign, Feb. 1862.
3. Shiloh Campaign, Feb.-Apr. 1862.
4. Peninsular Campaign, Mar.-Aug. 1862.

A. Bragg's Invasion of Kentucky: Perryville-Stones River Campaign, May 1862-Jan. 1863.
B. Jackson's Valley Campaign, May-June 1862.
5. Second Bull Run Campaign, July-Aug. 1862.
C. Antietam Campaign, Sep. 1862.
6. Fredericksburg Campaign, Oct.-Dec. 1862.
7. Vicksburg Campaign, Dec. 1862-July 1863.
8. Chancellorsville Campaign, Apr.-May 1863.
D. Gettysburg Campaign, June-July 1863.

9. Chickamauga-Chattanooga Campaign, Aug.-Nov. 1863.
10. Shenandoah Campaign, May 1864-Mar. 1865.
11. Grant's Operations Against Richmond and Petersburg, May 1864-Apr. 1865.
12. Sherman's Atlanta Campaign, May-Oct. 1864.
E. Hood's Invasion of Tennessee, Oct.-Dec. 1864.
13. Sherman's March to the Sea, Nov.-Dec. 1864.
14. Sherman's Campaign in the Carolinas, Jan.-Apr. 1865.
15. The Appomattax Campaign, Apr. 1865.

Maryland, 1862; Bragg's Invasion of Kentucky, 1862-1863; Lee's Invasion of Pennsylvania, 1863; and Hood's Invasion of Tennessee, 1864), but in each case the operation was essentially a strategic diversion, designed to relieve Federal pressure in another theater. A true strategic offensive would have concentrated a considerable Confederate force against some vitally important center in the North, such as Washington, Cincinnati, or Southern Illinois. Capitalizing on the superior marching abilities of Southern troops, such an invasion could have brought a Union army to battle at a time and place of the Confederacy's choosing. And, since the Southern forces would be on Northern soil, they could stand on the tactical defense, at which the Confederacy excelled, particularly in 1861-1862. But only one person in the South saw this as a viable strategy.

James Longstreet, one of Lee's fine corps commanders proposed just such an offensive in the late Spring of 1863, when Lee was contemplating an invasion of the North to help relieve Federal pressure along the Mississippi and, incidentaly, to help revictual his army. Longstreet proposed that Lee keep the bulk of his army on the defensive in Virginia and take one corps into Tennessee, using the South's marginally superior interior lines of communication to make the move quickly and quietly. In the West were some 100,000 battle hardened Confederate troops who, with Lee's corps, would make a massive army of 125,000 men, the largest ever fielded by the C.S.A. With this host under his command, Longstreet proposed that Lee crush Union forces in Tennessee and then take the war into Ohio, threatening Cincinnati, thereby forcing the Union to fight an offensive battle for its jugular vein. Given the prior performance of Federal troops against entrenched Confederates, the outcome was likely to be favorable and the course of the war would have been changed, perhaps even brought to a victorious conclusion. But Lee, incapable of seeing beyond the confines of his theater, demurred. He planned to go into Pennsylvania and could not be swayed. The result was Gettysburg, perhaps the most unnecessary and most mismanaged battle of Lee's career.

Actually, Lee's shortsightedness with respect to viewing the war as a larger entity was shared by most Confederate officers, and most Union officers as well. Individual Confederate commanders behaved towards each other like Patton and Montgomery in Western Europe in 1944-1945. And lacking a supreme commander they could never be brought to heel. So the cordon defense, an expedient at best in 1861, remained the principal Confederate strategy for the duration of the war. In a sense, of course, it worked. The South was able to stave off defeat for years. But a closer examination of the matter reveals an interesting point. In four bloody years of war the South never regained a significant amount of territory from the Union. With a purely defensive strategy, of course, they never had the opportunity. So in the end, their strategy was a failure.

Now none of this has been by way of saying that the North possessed any brilliant strategists. For most of the war Federal strategy was in as much of a muddle as Confederate strategy. But Union strategy changed and developed as time went on, a thing which Confederate strategy never did. And in the end the Union came up with a viable strategy. Curiously, they could have had it from the start.

When the Civil War broke out the General-in-Chief of the United States Army was Winfield Scott, a 74-year old veteran of the War of 1812 and the Mexican War. But if Scott's body was old and infirm, there was nothing wrong with his brain. Although a Virginian, he was fiercely loyal to the Union and evolved a plan which, although derided at the time as the "Anaconda Plan," proved to be the basis of a Union victory. Briefly, Scott proposed to spend several months of organizing and training an army and then sending 60,000 men down the Mississippi while other forces held the frontiers of the South and the navy tightened a blockade around the Southern coasts. Once the Mississippi was in Union hands, Scott envisioned a massive, leisurely mopping up operation to destroy the remnants of rebel forces. If adopted, his plan might have brought victory in 1862. But no one wanted to listen to a 74-year old who talked about a long and bloody war. The cry at the time was "Forward to Richmond." And even after the debacle at Bull Run (21 July 1861) Union eyes, and arms, were focused on Richmond. So Scott, hurt by accusations of senility, retired. But he lived long enough to see his plan vindicated.

When Scott went, centralized strategic direction of the war almost disappeared. To be sure, a succession of generals occupied Scott's old office, but their attentions were firmly focused on Richmond. It was all that Lincoln could do to convince them that other theaters should get some attention, particularly in the allocation of resources. Of course Lincoln could have peremptorily ordered his generals to cooperate, but he was learning the trade too, and firmly believed that there was a difference between the military and political spheres. So repeated Union attempts were made to take Richmond. But Richmond was not a legitimate military objective in 1861-1863 except in so far as the Confederacy was willing to commit troops to defend it. The legitimate objective of the Union armies in the East was the defeat of the Confederate armies. Unfortunately, few Union generals-in-chief saw it that way. Grab Richmond, they reasoned, and the war would be at an end. It was all very geographical, almost Eighteenth Century in fact, and very Jominian. As late as June of 1863, whilst Lee was marching into Pennsylvania, Lincoln had to tell Joe Hooker to ignore Richmond and chase after the *Army of Northern Virginia*. By that time, of course, Lincoln was beginning to tell his generals things; he was learning. As the war went on, and as Union armies were repeatedly thrown back from Richmond, the place became militarily valuable, much as Verdun assumed an importance far beyond its real value in the First World War. But by 1864-1865 Lincoln had found the sort of leadership he needed to fight the war and win. He had also found a strategy, formulated by U.S. Grant.

Basically, Union strategy evolved into something very much akin to what old General Scott had proposed in 1861. The line of the Mississippi would be seized to cut the Confederacy in two. Then, while major armies continued to apply pressure to pin considerable Confederate forces in the vicinity of Richmond, strong Union forces would drive deep into the vitals of the Confederacy in the West. And the blockade would be pulled tighter. Unlike Southern strategy, it *was* spelled out, but it really didn't have to be since Scott had more or less elucidated the matter in 1861.

This strategy was not brilliant. It didn't envision the sort of hammer-blow victory which people wanted so desperately in 1861-1863. But both sides could deliver hammer blows, while only the North could successfully wage a war of attrition. If the strategy wasn't brilliant, at least it worked. The South needed a brilliant strategy. Instead, they had an uninspired one. And so, by trying to defend everywhere, the South ended up defending nowhere.

ARMIES NORTH AND SOUTH

In 1861 both North and South sent untrained but enthusiastic bands of young men into the field against each other. By 1863 two of the finest fighting machines in the world had emerged, tried and tested in the hardest school possible. And the process was painful and costly. But if in the end there was not much to choose from between the two armies, such was not the case at the beginning. Both sides had some important advantages and disadvantages influencing their ability to field an army, and in the beginning the advantages generally lay with the South.

Organization.

At the start the Union threw away a considerable asset. This was the Regular Army, some 16,000 of the toughest professional soldiers in the world. Used as a leaven, to be spread among volunteer and militia units, the Regulars might well have produced a finely tuned fighting machine considerably earlier than was the case. But the Regulars were needed on the frontier, to hold down the Indians. And there were serious political objections to using the Regular Army in this fashion. For one thing, most Regulars didn't like the idea. For another, Lincoln had to get his manpower from the states, and the only way he could insure cooperation on the part of state governments was to permit the states to organize the troops. This aside, the advantage lay with the South, in getting together at the earliest possible moment an army which had some chance of success.

In mid-Nineteenth Century America one of the ways in which the upper and middle classes passed their time was in the militia. In addition to permitting a man to strut around in a remarkably fancy uniform, the militia held a series of social events in the course of the year, few of which had any military function. Many militia units were very well connected politically. And it all gave a man a sense of doing something for his country, since the militia was supposed to be available for war service should that unlikely event occur. But the most important function of the militia was in keeping the "lower orders" under control. In the North this meant firing a few volleys over the heads, or into the bodies, of factory workers demonstrating for more pay or just blowing off steam on a Saturday night. In the South this meant suppressing slave rebellions.

The South lived in paranoid terror of its slaves. On the one hand the slaveocrats claimed that their slaves were simple, well-cared for folk very content with their lot. And on the other hand, they were haunted by the memory of Haiti, where the slaves had risen up, slaughtered their masters and established a republic. The South had its slave rebellions too — hundreds of them. Most were spontaneous spasmodic outbursts of violent reaction to oppression. Some, a few, were the result of well-planned conspiracies. None lasted more than a few days. And all were brutally

(continued on page 12)

The War on the Oceans and Rivers

The Civil War is not normally thought of in terms of seapower. Nevertheless, it is quite likely that the Union would have lost the war were it not for the enormous Federal efforts to build a navy on the ocean and the rivers. As remarkable as that effort was, it was surpassed in ingenuity and inventiveness by the Confederate efforts to build a navy.

When the Lincoln Administration took office in March of 1861 the United States Navy owned a total of about 90 ships. But of these 90 vessels, only 42 were in commission, the balance being laid up "in ordinary," which theoretically meant that they were ready for sea duty almost as soon as a crew could be put on them. In reality, of course, most of the ships "in ordinary" were old sailing vessels ranging in type from sloops to brigs to frigates to huge ships-of-the-line. In fact, many of the ships in commission were also sailing vessels. Out of 90 ships, only 23 were steam powered vessels of some military value. These were crewed and administered by a total of 9,057 officers and men, of whom 237 officers (16% of the officer corps) "went South" when the war began. From this base grew a navy with close to 700 vessels and 35,000 men scattered all around the coasts of the nation and all along its numerous internal waterways. This remarkable effort was primarily the work of Secretary of the Navy Gideon Welles and his assistant Gustavus Fox.

Almost as soon as they occupied their offices, Welles and Fox began to acquire ships. Ships of any type and sort, for Mr. Lincoln intended to blockade the Confederacy and the blockade, to be legal, had to be effective. Their efforts were incredible. By the time of Bull Run the navy already had about 170 ships on the ocean and was beginning to establish a small squadron of river gunboats at Cairo in Southern Illinois. Now most of these vessels were totally unsuited for military use. Indeed it was not until early 1862 that properly designed gunboats and sloops and cruisers began to become available. But, whether tugs or ferryboats or old fishing schooners, Welles' scratch force held the blockade together from the beginning of July 1861 through to the end of the war.

Meanwhile, on the rivers, it was the army which first broached the subject of gunboats. But the navy cooperated. Using gunboats, the power of the Union could be projected far into the interior of the Confederacy. Indeed, many of the great victories in the Western Theater were directly attributable to the effective use of riverine forces and to the use of rivers as highways over which troops could move with a speed and efficiency likely to stun any defender. From a small and very modest beginning of some three gunboats, none of which were properly designed as such, the navy would eventually have over 90 on the western rivers. And some of these would be armor plated.

Armored warships were not new in 1861. They had been discussed for years and, with the advent of steam, had become a practical possibility as early as the 1840's. But the first experiments were only conducted in the Crimean War (1854-1856) when the French and British built some armor plated floating batteries. These were so successful that it was inevitable that armored sea-going warships would follow. Thus, in 1859 the French launched their first armored frigate, *Glorie,* to which the British responded with a superior vessel in 1860, HMS *Warrior.* The usefulness of armor was so widely accepted that, almost from the beginning of the war the Union undertook to examine the possibilities of building ironclad warships. Indeed, ironclad gunboats were completed as early as November of 1861. Shortly after definitive word was received that the South had decided to go ahead on this same type of project, contracts were made for one of the most successful of the early types of ironclads, the monitors, named after the first of their type, U.S.S. *Monitor.* Monitors were originally conceived as an additional weapon with which to impose the blockade. As such, scores were built, along with other types of ironclads. But they soon found another role, as floating batteries which could resist the fire of fortresses and other ironclads in support of joint army-navy amphibious operations. For, in addition to merely transporting the army from one place to another, the navy began to join with the army in seizing vital areas on the coast of the Confederacy almost from the very onset of the fighting.

In August of 1861 the navy seized Hatteras Inlet from the Confederacy, thus beginning a series of operations which would eventually see every major and most minor Confederate ports and coastal inlets under Federal occupation. This was not done without setbacks. But it was generally successful. And, as the ports and inlets fell into Union hands the blockade grew tighter, for no matter how successful a blockade runner was in avoiding Union vessels, his efforts were useless if there was no port for him to put into. The process, once begun, was inexorable and furthered the slow strangulation of Southern commerce and industry.

Of course, the Union Navy did not operate in a vacuum. The Confederacy made incredible efforts to raise a navy of its own. And, as with Confederate efforts to build an industrial base, the wonder is not that they failed, but how well they succeeded. Starting with virtually nothing but some feeble industrial installations and the burned-out hull of an old cruiser (found at Norfolk, Virginia in April of 1861, when the navy yard fell to the Virginia militia), the Confederacy soon became one of the most creative naval powers in the Nineteenth Century. But it was precisely their lack of an adequate industrial base which frustrated Confederate efforts to build a fleet. For, unlike the Union, the Confederacy needed ironclads to break the blockade. To maintain it, the Union merely needed anything that could float and carry a few cannon.

Right from the start the Confederate navy concentrated on ironclads. Their first essay, the C.S.S. *Virginia,* converted from the hulk of the frigate U.S.S. *Merrimack,* was wildly successful. Or at least, it seemed wildly successful. But like all innovative weapons its very novelty probably helped make it a success. In its first encounter with Union blockaders, at Hampton Roads in March of 1862, the *Virginia* destroyed two sailing vessels and nearly destroyed a steam frigate. All these vessels together probably had the firepower to destroy the *Virginia,* were they but provided with steam power. And the next day, a Federal novelty, the *Monitor,* arrived on the scene. The resulting battle was a draw. Both vessels had serious flaws. And the Union was in a better position to explore improved designs than was the Confederacy.

But if the Union was better equipped to improve its navy, the South intended to keep up. Some 50 ironclads were laid down or converted from other vessels. Of these most never saw action. Indeed, most were very poor ships in terms of sea keeping. But by the end of 1863 the Confederate navy had recognized that it would not be able to break the blockade from within and had begun to concentrate on smaller coast defense type vessels rather than large sea-going ships. Given their lack of sufficient industry to permit them to make proper sea boats, this was a reasonable decision. In addition, it helped promote the defense of many of the more important coastal ports. With a squadron of small ironclads to assist it, the Confederate army was far more able to defend places like Charleston and Savannah and Wilmington. Mostly, the two dozen vessels which were completed saw little or no combat although they provided a major threat, a sort of "fleet in being" which seriously worried Union naval officers throughout the war. In the end, most of the Confederate ironclads were scuttled to prevent capture as Union armies threatened to overrun their bases. Only a handful were destroyed in combat or taken by the Union after furious battles.

On the rivers the situation was very much the same. Although by the spring of 1862 the Confederacy had a dozen or so gunboats on the Mississippi, these were split up between New Orleans and Memphis. Neither force had sufficient strength to oppose the more aggressively led Union forces sent against them. Thus in April of 1862 the Union Flag Officer David G. Farragut, led a fleet of wooden vessels up the Mississippi and, in a furious night action with an outnumbered and outgunned Confederate squadron, managed to sink almost every one of them. But the backbone of the Confederate defense, two ironclads, had not yet been completed. If they had, the situation might have been different. The story at Memphis was much the same. A Federal gunboat squadron

came downriver, engaged the small Confederate squadron and annihilated it. That ended the Confederate navy on the river except for some strenuous efforts to complete the Ironcald *Arkansas,* which briefly threatened Union control; then her engines gave out from exhaustion.

Of course, merely because the Confederacy lacked a fleet on the Mississippi did not automatically give the river over to the Union's control. But it certainly did not prevent the Union from making more or less free use of the river from April of 1862. And when Vicksburg and Port Hudson fell, in July of 1863, the Union navy had a completely free hand on the "Father of the Waters."

The last fleet action of the war, in Mobile bay in August of 1864, likewise ended in a Federal victory. It could have had no other outcome. With that, the Confederate navy virtually ceased to have a history, except on the high seas and in Europe.

In Europe, Confederate agents were busily employed in procuring warships. These were of two types: Ocean-going cruisers designed to raid Federal commerce, and large ironclad warships designed to break the Federal blockade. The problem was that technically the Confederacy did not exist, never having been recognized by anyone. This meant that it could not buy warships. In addition, even had it obtained recognition, international law prevents the sale of warships to a belligerent in time of war. So various subterfuges were used, most of which were tissue thin. The Union was well served by its diplomats, who made vigorous efforts to block Confederate purchases of warships. At one point Lincoln even threatened war should Britain permit certain vessels (ostensibly building for a French consortium of speculators) to sail. Although technically without legal power to do so, the British government requisitioned the vessels for its own use. But it was unable, and sometimes unwilling, to cooperate in all instances, and this led to the famous Confederate commerce raiders *Alabama, Florida,* and *Shenandoah.*

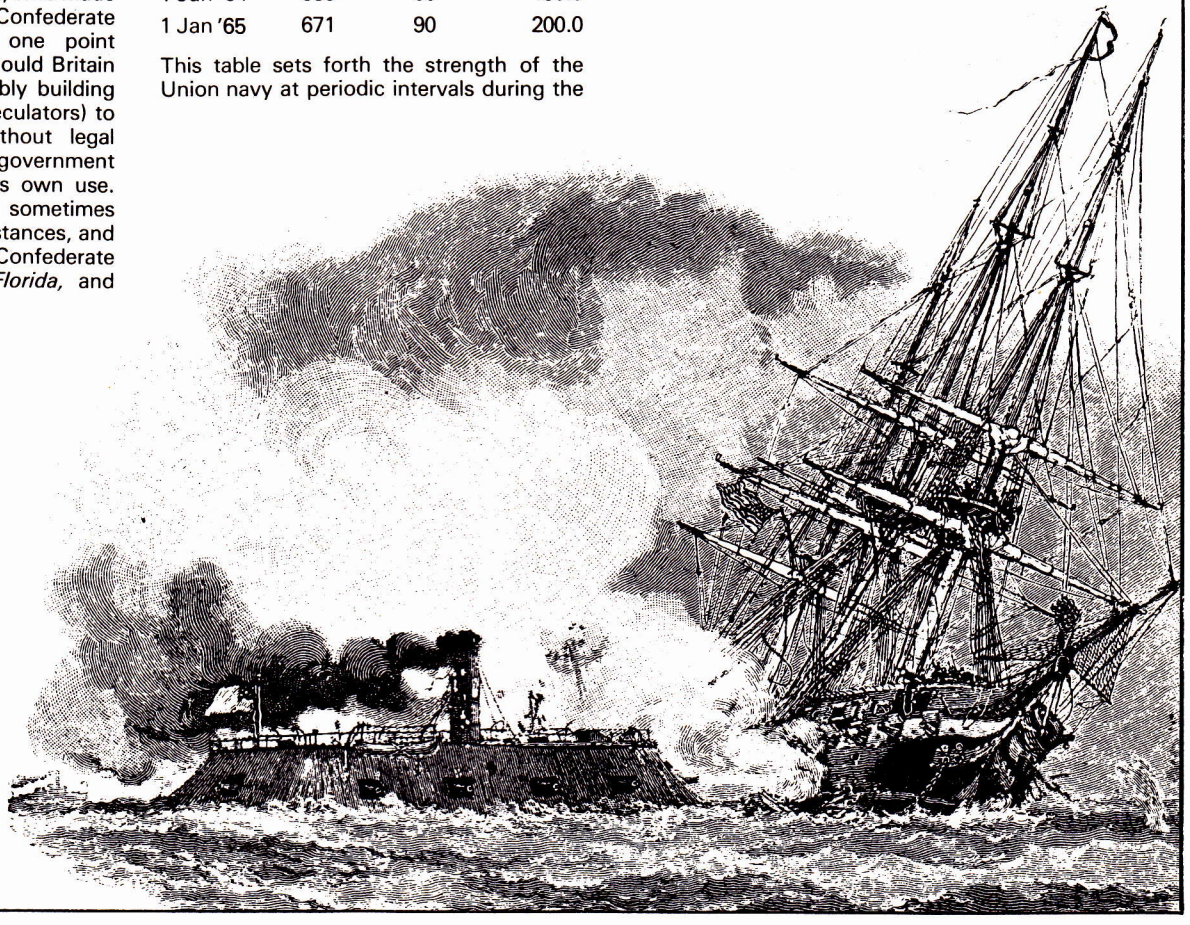
These cruisers were built in Britain as fast merchantmen. Taken to sea, they were transferred to Confederate control. While at sea they were armed, crewed, and commissioned as warships with the object of wrecking Federal commerce. Commerce raiding was a practice dear to the hearts of inferior naval powers. It assumes that they can impose a sort of blockade in reverse on their enemies by wiping out this trade. But, unless one is willing to violate neutral flags, and thus risk the ire of their owners, he is not likely to succeed. Thus, although the Confederate raiders wrought terrible havoc among Federal merchantmen and whalers, they were not going to destroy Federal commerce. Indeed, measured against the total volume of Federal commerce, the raiders had very little success. Their prime victory, and one which in some ways still influences the American merchant marine, was in driving up insurance rates. This led many wiley shipowners to transfer their vessels to foreign flags, thereby to benefit from the protection offered by those colors. And so, even in commerce raiding, Confederate efforts, although strenuous, came to nought. But in their failure, they attained a remarkable degree of success.

THE U.S. NAVY, 1861-1865

Date	Ships		Sealift
	Total	*Rivers*	
1 Jul '61	168	3	2.0
1 Jan '62	264	10	15.0
1 Jan '63	427	44	120.0
1 Jan '64	588	60	150.0
1 Jan '65	671	90	200.0

This table sets forth the strength of the Union navy at periodic intervals during the war. The column *Total* indicates the grand total of vessels owned by the Federal navy, including those on the western rivers. Numbers under *Rivers* indicate those vessels, primarily gunboats, serving on the western rivers. The column "Sealift" indicates the number of troops the navy was capable of supporting by sea, in thousands, at any given time. This last *excludes* riverine transport and supply capacity. It should be kept in mind that roughly 25% of the vessels noted would not be in service at any one time, due to repair, damage, overhaul, service on foreign stations, and so forth. Losses: to 1 Jan 1863 totalled 11 vessels (2½%); to 1 Jan 1864 totalled 43 vessels (7%); to 1 Jan 1865 totalled 69 vessels (9%).

Confederate strength at any given time is largely a question of conjecture. They completed 28 ironclads and about an equal number of gunboats and a half-dozen cruisers. Of the ironclads, 18 were scuttled to avoid capture, five surrendered, three sank accidently and two were destroyed in combat. Foreign built vessels were either destroyed or sold out of service at the end of the war.



The *C.S.S. Virginia* sinking the *U.S.S. Congress* during the first day of battle at Hampton Roads, 8 March 1862. The next day, the *U.S.S. Monitor* arrived and, although the subsequent battle was a draw, the *Virginia* made no further attempts to break the blockade. It was the first battle between ironclad warships.

(continued, from page 9)

suppressed by the local militia. By the time of the Civil War the frequency of slave revolts had declined, partially due to an increase in repression and partially to an increase in the efficiency of the militia. The South became almost militarized through its large militia. This militia, with a more serious role than merely holding picnics and occasionally breaking up a riot, was considerably more prepared for war than its Northern counterpart.

In both North and South it was the militia which responded to the first calls for manpower. In April of 1861 Lincoln had called for 75,000 men and shortly thereafter Davis called for 82,000. These calls were allotted to the individual states which answered them by forwarding their standing militia regiments, supplemented by newly raised volunteer regiments. Some states actually found more volunteers on hand than they were called to supply and several kept these men on the state payroll, as standing state forces. But all of these initial enlistments were for three months only. Then came Bull Run and a realization that the war was going to be a long one.

Mr. Jefferson Davis of Mississippi
President of the Confederate States of America

Actually, even before Bull Run both sides had authorized some enlistments for three years. And the Confederacy began recruiting all manpower on this basis shortly before the battle. But the initial manpower calls in both North and South had been fairly small. In the Summer of 1861 came more massive calls, with the Confederacy asking for 400,000 men on a one-to-three year enlistment basis and the Union for 500,000. These calls were answered enthusiastically. The situation was not to last. By the Fall of 1861 the Confederacy was beginning to feel a manpower pinch. People were not volunteering in sufficient numbers. When enlistment bounties in cash proved ineffective in raising the required number of men, the Confederacy resorted to conscription. The *Conscription Act of 16 April 1862* became the means by which the bulk of Confederate manpower entered the army. Confederate conscription was highly undemocratic. State governments, exercising their "state's rights" exempted thousands of petty functionaires. The act itself exempted slaveholders in a certain ratio because someone had to watch the slaves. The act also permitted the buying of substitutes and exempted tens of thousands of people for occupational reasons. Many of the exempted individuals actually enlisted on their own. But the undemocratic features of the act caused much dissatisfaction. In many areas there were draft riots and the Southern desertion rate was always incredibly high.

By various methods, but principally through volunteering, the North managed to avoid resorting to conscription until 8 March 1863. By then, it was obvious that something more than an enlistment bonus and patriotic zeal was necessary to get men into the ranks. The Federal *Enrollment* and *Conscriptions Acts* had many of the same features which the Confederate program had, and added the possibility of paying a $300.00 exemption fee. But, unlike the situation in the South, relatively few men actually entered the army by being drafted, though the draft did spur many to enlist, which was its primary purpose. As in the South, the act was considered highly undemocratic and draft riots broke out, that in New York being particularly fierce largely because the state militia was away in Pennsylvania getting ready to fight Lee, who was then at Gettysburg.

In the end, whether through activated militia, volunteer enlistments or conscription, the Union reached a peak paper strength of 1,000,000 men in the Spring of 1865. The total number of *enlistments,* including 30- and 60-day militia, three-month men, 100-day men, six-month men, eight-month men, one-year men, two-year men, and three-year men was nearly 2,700,000, but many passed through the ranks several times and the total number of *men* who actually served was something like 1,700,000 or 8.1% of the population of the Union States.

The Confederacy actually mobilized a far greater proportion of its population than did the Union. Fully 900,000 men passed through the Confederate ranks, with a peak strength of 500,000 around the middle of 1863. The figure 900,000 represents only 8.7% of the total Southern population, but 14.5% of the white population and a remarkable 75% of the male population between 15 and 50. It was this outstanding effort, combined with certain other Confederate assets and several significant Union handicaps, which kept the Federal armies at bay for so many years.

Much has been said about the superiority of Southern manpower. To some extent this was true. At least initially, the Southern soldier was a better soldier than the Northern soldier. Raised in a rural setting, inured to the outdoors, familiar with firearms, the Southern farm boy was certainly better prepared than his Northern cousin to be molded into a soldier. But as the war grew longer the differences tended to become less important. In addition, the Southerner was not all *that* much better than the Northerner. Most Northerners lived on small farms in 1860 too. By 1863 there was little difference between the troops, although the Southerners could still march rings around the Northerners. And by 1865 even that advantage was gone. But the South still understood how to organize its manpower more efficiently.

For political reasons the Union was never able to institute a replacement system like that of the Confederacy. In the Confederate service relatively few regiments were raised. As recruits became available they were assigned to various existing regiments. This had two results. First, it preserved combat hardened regiments in the order of battle, thereby improving morale among the troops. It also meant that the recruits would become good soldiers in a fairly short time. In daily contact with experienced veterans, the "green" men would rapidly lose their rough edges. Going into their first engagement would be made somewhat easier by the presence of their battle-wise comrades. And a higher proportion of the recruits would survive their first battle as a result. The North had no such system. As recruits became available they were organized into new regiments, largely in order to provide political patronage in the form of colonelcies, majorities and captaincies. While veteran regiments faded away for want of manpower, green regiments took their place. The loss of veteran cadres was understood, but the political importance of keeping certain state governors happy outweighed this consideration. Throughout the war, the average Southern regiment tended to be stronger and better trained that its Northern counterpart, until the South began to run out of manpower in late 1864. It was a critical factor in the efficiency of the Rebel armies.

Mr. Abraham Lincoln of Illinois
President of the United States of America

Weapons and Tactics.

In any given situation, tactics are a reflection of weaponry. Or rather, tactics *ought* to be a reflection of weaponry. In the Civil War, as in many other wars before and since, tactical developments had fallen behind progress in weaponry. While inexcusable, this lag is understandable. Progress in weaponry is linear; one thing tends to lead to another. Progress in tactics is in terms of quantum jumps: at some point in time a revolutionary breakthrough occurs, but usually there is no progress. The result was that, although equipment changed, technique didn't. And men died unnecessarily.

In 1861 the United States had not fought a major war for twelve years. And the Mexican War (1846-1848) had been fought with the same weapons used during the Napoleonic Wars. Indeed, there was little difference between the weapons used in the Mexican War and those used in the American Revolution. The principal weapon was the smoothbore musket firing a one ounce ball with an effective range of about 100 yards. Standard tactics with this weapon were to keep your troops in two or three lines and advance to within a very short range of the

enemy, perhaps as close as 40 yards, before firing. Then the troops would exchange volleys. Sooner or later one side would falter. Then the steadier side would attack with the bayonet. This was all fine as long as a smoothbore musket was being used. But in the 1840's a revolution in weaponry occurred with the introduction of the cheap, easily loaded rifled musket.

Rifled muskets had been around for some time, but were not considered effective weapons except for light troops and snipers. The basic problem was that they took too long to load. But in 1848 Captain Minie of the French *Garde National* devised a simple conical bullet with a hollow base into which a tiny steel ball fitted. The bullet was actually narrower than the bore of the musket, to permit it to slide down the barrel easily. But once fired, the "Minie ball" in the base of the bullet forced the bullet to expand and fit the rifling grooves. Suddenly the infantryman had a reach of 350 yards, for the rifle was far more accurate than the smoothbore. By the mid-1850's the U.S. Army was equipped almost exclusively with rifled muskets and these remained the principal firearm of the Civil War for both sides.

But if the rifled musket became the standard firearm, tactics did not change to deal with the new weapon. In the early part of the Civil War both sides made attacks in the old Napoleonic style, with successive lines of infantry trying to march up to very short ranges. Occasionally, even massed columns were used in a perverse attempt to imitate the French tactics of 1793-1815. The result was a remarkably long casualty list. As the war progressed new tactics were evolved to cope with the increased accuracy of the musket. The spacing between troops was increased, more effective use was made of available cover. Yet the basic problem still remained. The defense had a considerable advantage over the attack, an advantage which persisted to the end of the war.

The matter was not dissimilar with respect to defensive tactics. Under the old system troops stood in the open to receive the attack. But this, too, produced fearful casualties. So the troops began to go to ground. Digging became a way of life. And even if there was no time to dig, the troops could make use of available cover. But this had its own disadvantages since the rifled musket, being a muzzle-loader, was almost impossible to load when lying prone. There were breech-loaders available at this time. Indeed, the Prussian Army had begun to issue one as standard equipment as early as 1843. But breech-loaders were more expensive than muzzle-loaders, and many officers felt that they would consume too much ammunition, thus creating a logistical nightmare. And, more importantly, the time required to tool up for the large scale production of breech-loaders would have been prohibitive. Neither side had enough of the muzzle-loaders to meet their needs from the start. Indeed, even the Union had to rely rather heavily upon imports at the beginning of the war. For either side to have attempted to convert its production from muzzle-loaders to breech-loading rifles would have seriously hampered its war effort, conceivably to the point of defeat. Nevertheless, the general superiority of breech-loaders was recognized by some. Lincoln himself helped get the Union cavalry equipped with the Spencer breech-loading repeater in mid-1863. And by that time, special infantry units were also being given breech-loaders, although the muzzle-loader remained the principal firearm of the war.

Generally speaking, the Confederate infantry was superior in technical skill and combativeness in the early part of the war. But as Union forces became more seasoned, the differences began to disappear. By mid-1863 there was not much to choose from between the two armies. And in the end the war was an infantryman's war. Fully 91.3% of all battle casualties were caused by musketry.

Artillery, which during the Napoleonic Age had been a major killer, and which would become one again in the Twentieth Century, was relegated to an essentially secondary role during the Civil War. Only 8% of the casualties in the war were from artillery fire. This was primarily because progress in artillery weaponry fell behind that in infantry weapons. The 12-pounder "Napoleon," widely used by both sides during the war, was not particularly superior to 12-pounders used by the Great Napoleon himself. With a maximum range of only 1,600 hundred yards, it was often the case that artillery units found themselves under musketry fire in the front lines, for being direct fire weapons there was no other post they could occupy. As an offensive arm artillery proved significantly ineffective. But as a defensive arm it was quite good, particularly when some fool tried a frontal assault with infantry or cavalry, such as "Pickett's Charge" at Gettysburg.

One curious development of the war was the introduction of rifled breech-loading cannon. This development was curious because the new weapons were not as efficient as the old "Napoleons." They still had too many "bugs" in them, including a lower rate of fire and a smaller bursting charge in their explosive shell. Although the rifled guns had a greater range, they were still direct fire weapons, which placed them in the front lines with the infantry anyway, where their range didn't matter overmuch. It was a case of technological innovation coming just a few years too soon. By 1870 the breech-loading rifled cannon was perfected. In 1863 it was something of a novelty.

Both sides attained rather high states of efficiency fairly early in the war. This is understandable since artillery was a highly technical arm. One was either good at it or not good. The guns on both sides were well served. It was a simple professional fact.

There was one arm in which the Confederacy excelled throughout the war, although the extent of its excellence gradually declined. This was the cavalry. Unfortunately for many young men, no one was quite certain as to the proper role of the cavalry at the beginning of the war. Far too many cavalrymen, particularly in the North, thought in terms of "Murat and all the Emperor's cavalry." They wanted to make glorious charges. But against fairly good infantry, even without artillery support, glorious charges tended to turn into bloody routs. The idea that cavalry was a romantic arm persisted throughout the entire war. By the middle of the war, however, a fairly clear picture of the role of cavalry was emerging. This was a reconnaissance, screening and skirmishing force. Many cavalrymen also liked to think that raiding was a glorious way to play at being cavalrymen. To be sure, a well executed raid could produce remarkable results. But too often, the employment of large mounted forces on a raid deprived the main forces of vitally needed cavalry support at critical times. A prime example of this was J.E.B. Stuart's idiotic raid into the Federal rear during the Gettysburg Campaign, which left Lee without any reliable intelligence for nearly a week and led directly to the Battle of Gettysburg.

The best cavalrymen of the war, and these were mostly Southerners, usually left their sabers home. If they had to fight they did it on foot using carbines. By 1864 Federal cavalrymen were getting to be as skillful as their Rebel counterparts, particularly after they were issued the Spencer repeating rifle, which greatly improved their firepower and accuracy. But right up to the end, the Southern cavalry managed to retain an edge in technical skill and audacity. It was the only technical advantage which the South retained throughout the entire war, for by 1864 even their leadership was being surpassed by Union leadership.

Leadership.

Napoleon once said that an army of rabbits led by a lion was superior to an army of lions led by a rabbit. In the American Civil War neither army was composed of rabbits. But there were times, notably in the Union service, that the leadership was distinctly rabbit-like.

Much has been made of the importance of the West Pointer to the war efforts of both North and South. And to be sure, virtually all of the high level leaders on both sides had a West Point background. But up to and including 1861, West Point had had only about 2,000 graduates. Even if one adds in the relatively large number of non-West Pointers who had served as officers in the army in the decades prior to the Civil War and who then returned to civil life; even if one adds in all the militia officers with a modicum of real field service; even after adding the considerable number of foreign military adventurers and immigrants with military backgrounds; after all this, the number of officers available was just too small to fill the requirements of just one of the armies. Roughly speaking, during the course of the war, the Union needed something like 75,000 regimental officers and the Confederacy about 36,000. This is at the rate of 36 officers per regiment. It completely ignores officers needed for staffs, higher field formations such as brigades, divisions, corps and armies, and for general headquarters and logistical commands. It is not difficult to see why the West Pointers, and the handful of former regular officers who returned to the colors, rose rapidly to high rank. There was no one else who knew the business. But where were the tens of thousands of other officers to come from? From civilian life.

In the beginning most militia and volunteer regiments elected their officers. The men held a ballot and the winner was a lieutenant or a captain or a colonel. On rare occasions, such as when one wealthy person subsidized the formation of a regiment, it might be offered as a command to a more or less experienced officer, possibly an ex-regular, who might then appoint some officers. In both of the armies, the standard method for procuring officers in new regiments was to elect them. Now the election of officers has been criticized as being bad for discipline and permitting incompetents to attain positions of importance. This is certainly true. But it is also true that there was no other way possible to get the large numbers of officers needed in the short time available. Many of these people were incompetent. But

most of them had the confidence of their men, which certainly counted for something when both armies were groping around learning their trade. By 1862 both sides had established review procedures and had mechanisms for the removal of particularly bad officers. But combat can turn an inexperienced man into a fair field officer in a relatively short time. A man who spent his life managing a factory or a plantation or a law office at least had the administrative skills, and some of the leadership skills, needed to make a good officer. If he survived his first few battles he might also acquire some tactical sense. In World War II, the Soviets were forced to resort to much the same process, bringing men almost directly from civilian life into officer positions. Casualties were heavy, but in time the men learned. And as with the Soviet Army in 1941-1945, so to with Union and Confederate Armies of 1861-1865.

Actually, in the lowest ranks there was not much to chose from between the Union and Confederate officers. But as one moved higher through the ranks, differences began to emerge. Approximately 43% of all the regular army officers in 1861 were of Southern origins. Of course, approximately 65% betrayed their oaths and "went South," representing about 29% of the total officer corps once one included some sixteen men who were of Northern origins but Southern sympathies. It is important to note that fully a third of all Southern officers in the Regular Army in 1861, and 50% of Southern West Pointers, stayed loyal to their oaths of office. In addition, many officers who, though of Northern origins had married into Southern families or lived long years in the South also remained loyal. Unfortunately, for a considerable time Union officers of Southern origins or with Southern connections were not entirely trusted. This had a negative effect on the war effort since many of these men were among the more talented Union personnel.

But if most of the Regular Army officers remained loyal to their oaths, the 313 who went South must be considered by far the

Southern War Production

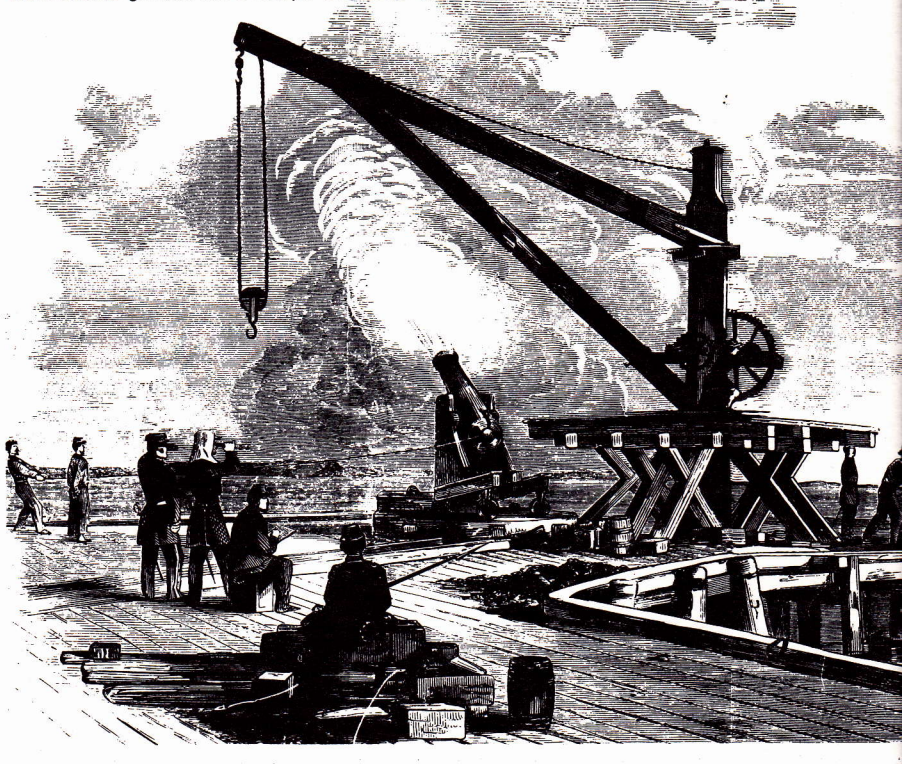
One of the most remarkable aspects of the Civil War was the way in which the Confederacy attempted to cope with its lack of an industrial base. In 1860 over 90% of the nation's industrial production was outside of the South. Because the South had overspecialized in cotton, and to a lesser extent, tobacco, rice and sugar cane, it never developed even as a passably efficient industrial base. Virtually all necessary manufactured goods were imported in spite of the existence of extensive coal and iron ore deposits. And Southern manufacturing, such as it was, was incredibly inefficient. In 1860, with 13.6% of the pig iron plants in the United States and with 10.5% of the pig iron workers, the South was producing only 3.7% of the nation's pig iron! The price per ton was something like $91.52. It was actually cheaper to buy a ton of British iron on the dock in Baltimore or Charleston, which came to $65.00. Needless to say, Pennsylvania iron was even cheaper than that, running about $57.70 per ton. So long as the nation puttered along intact there was no serious difficulty. But once the South opted out of the Union it was faced with an enormous task, amounting to nothing less than the creation of an efficient industrial base during wartime. It is remarkable how successful they were, even though they ultimately failed.

The principal need, of course, was weapons. In all of the South there was not a single cannon foundry in 1860. But there were a couple of small iron foundries, notably the Tredegar Iron Works of Richmond, Virginia. This plant expanded its facilities enormously. By the end of the war it was producing ship's machinery, armor plate, and cannon. Many more could have been produced but for the peculiarity of the Southern transportation system. Southern railroads did not connect major cities with each other except incidentally. Their primary purpose was to connect the cotton producing areas with the seaports from which the cotton would be shipped. As a result, the rail net was woefully inadequate. There was but one through rail connection between the Atlantic and Mississippi regions of the Confederacy. And that connection was severed with the fall of Tennessee to the Union in 1862. [Incidentally, the loss of Tennessee also meant the loss of about 50% of the South's lead production, about 50% of its iron ore, about 60% of its pig iron, some 90% of its copper and 100% of its locomotive production.] As a result of the peculiar nature of the Southern rail "net," a peculiarity which was complicated by a shortage of rolling stock and the total lack of new rails [Tennessee again], the South's ability to move raw materials was severely limited. This meant that even the limited industrial capacity available was not able to operate at full capacity. The Tredegar works are an excellent case in point.

The Tredegar Iron Works had a theoretical capacity to absorb about 22,000 tons of pig iron a year. Due to the inadequacies of the transportation system, however, the highest annual supply of pig iron was 7,800 tons in 1863 and the average for the period 1861-1864 was only about 6,900 tons per year. Moreover, if it were not for the strenuous efforts of Tredegar's management in developing pig iron production all over Virginia and North Carolina, the supply would actually have been less. This average annual supply was only about 71% of the supply in 1860, the last normal year of operation. Consider how many more cannon and how much more armor plate Tredegar could have manufactured with an adequate supply of materials. But of course, there still would have been the problem of transportation.

Another very good example of the South's efforts to industrialize is the Augusta Powder Works in Georgia. The plant was established by the Confederate government in 1862. By 1863 it was

Confededrate gunners fire a Sawyer long range gun from a dockside emplacement.



better portion. Men such as Robert E. Lee, Albert Sidney Johnston, Joseph Johnston, Pierre G.T. Beauregard, James Longstreet, and others. In addition, a considerable number of former Regular Army officers returned to duty with the Confederacy such as Thomas "Stonewall" Jackson and Leonidas Polk. These men provided the top military leadership of the Confederate armies for four years. And they were quite good at it.

In 1861 no American had ever commanded as many as 20,000 men in the field. The largest American field force had been Winfield Scott's 14,000-man expedition to Mexico in 1846-1848. But Scott and his division and brigade commanders were getting on in years by 1861. None would take the field during the Civil War. So the war began with relatively inexperienced personnel on both sides. Suddenly, men who had never commanded more than the rump of a regiment found themselves leading tens of thousands of men. This situation greatly favored the Confederacy. Added to the other advantages already enjoyed by the South on the outbreak of the war, and the considerable native talent of much of the Southern military leadership, it spelled disaster for Union arms time and again. Standing on the defensive, the Southern armies had fewer technical problems. Union forces, required to march into and conquer a hostile land, were at a distinct disadvantage in such a situation.

In the beginning Union leadership vacillated between excessive caution and incredible foolhardiness. Everyone was new to the task and everyone had an idea as to how it could be done. Audacity seemed to be called for, but the most audacious leaders in the parlor and in side shows often turned out to be the most cautious in the field. Many, like George McClellan, took counsel of their fears. Others accepted command reluctantly, such as Ambrose Burnside, rightly believing themselves poorly equipped for such positions. The net result was that such men were bold when they should have been cautious and cautious when they should have been bold. Nevertheless, they performed one vitally important

accounting for some 40% of the South's powder production. But its output, roughly 10,000-12,000 pounds every 24 hours, could easily had been doubled except for a shortage of saltpeter (potassium nitrate). But saltpeter deposits were scarce in the South and those that were available were insufficient to keep adequate shipments en route to Augusta.

In an attempt to cope with its shortages in virtually every important industrial product, the Confederate government entered manufacturing in a big way. By the end of the war it was producing muskets, cannon, armor plate, steam engines, ironclad and ordinary warships, gunpowder, medicines, whiskey, and even salt and lead. But in the long run, home production was inadequate to the need. Between a shortage of equipment, a lack of trained personnel, and an inadequate rail net, the Confederacy was just unable to produce sufficient materials to meet its needs. Consider cannon.

During the war the Tredegar works produced about 1,100 cannon. The Naval Cannon Factory in Selma, Alabama produced a further 250. Minor establishments throughout the South probably brought this total up to about 2,500 at most. This figure was actually less than the total number of cannon with which the South began the war! Over 2,000 cannon were seized when the Virginia militia overran the United States Navy Yard at Norfolk. An indeterminate, but considerable number more, were obtained from Federal arsenals and forts seized throughout the South during the "secession winter," and a further increment came from the armories of the various state militias. Thus, the South began the war with more than 2,500 guns. And that number was inadequate. At four guns per thousand men (the more or less "normal" ratio maintained by armies at that time, plus a reserve to cover attrition), the Confederacy needed about 3,600 cannon for its army. Then there were guns needed for the navy for the coast defense installations, training purposes and militia use. Domestic production helped supply some of these needs. And great numbers of guns were captured during the great Confederate victories of 1861-1863, notably in the East (some idea of the importance of this source may be gained from the fact that the Confederacy captured over 100,000 muskets in 1862 alone). But ultimately the Confederacy still needed more guns than it could manufacture or capture. It was the same with other items. That meant it had to import them. This immediately brought up the problem of the Union blockade.

Lincoln proclaimed the blockade of the South in April of 1861, fully realizing the importance of trade to the Southern war effort. Although the blockade took a few months to become effective, by July of 1861 the South was pretty much sealed tight. Then blockade running began. Blockade running was a high risk business, but profits were incredible. And, as ships especially designed for blockade-running were developed, the risks actually declined somewhat. Roughly 8,250 ships entered Southern ports during the war. This represented about 137% of the 1860 entries spread over a four year period. But most of the running took place during 1862-1864, before the Union had seized control of all the South's ports. Thus, in the first year of the blockade only about 800 ships entered Southern ports, or about 13% of the 1860 entries. And there were no Southern ports left to enter in 1865 so the entries that year were statistically insignificant. This means, however, that an *average* of roughly 230 ships entered the South each month during the period from May of 1862 through January of 1865, or about 45% of the pre-war entry rate. But the cargoes of most of these ships were small. Although it is true that large amounts of military equipment were brought in, including 600,000 small arms, most blockade runners preferred to carry such luxury goods as wines, liquors, lace and silk, carpets, toys, furniture and jewelry which fetched far greater profits than arms did. Not until 6 February 1864 was the Confederacy to prohibit the importations of such non-essentials.

The exact amount of goods brought into the South by blockade runners is almost impossible to determine. Much of it was consumed in part, due to an inability to distribute it properly. Successful blockade runners often made as much as $30,000 on a single voyage. Indeed, the 1,022 blockade runners who were intercepted (roughly one in nine) brought the Union sailors who intercepted them some $24,500,400 in prize money, which works out to $23,972.99 per ship taken. Clearly, being a blockade runner was profitable. Being a blockading sailor could be even more profitable, since the above prize averages out to some $1,600 for every man in the blockading squadrons. Of course it wasn't divided up democratically. Officers got the lion's share. But a lucky gob could still come away with a nice piece of change to compensate him for months of boring blockade duty. The high costs of blockade running were one of the principal reasons why luxury cargoes were preferred.

There was a severe shortage of foreign exchange in the South as a result of the blockade. Although the Union may not have kept the blockade runners out, it was certainly able to keep the cotton *in*. In four years of war, total cotton exports were little more than a tenth of those of the year ending August 1861 alone. And even if the cotton could have gotten through, it would not have brought in much credit since there was a glut on the market in Europe. Indeed, one of the Confederacy's greatest myths was that Britain and France would save them in order to keep the mills going. The mills kept going on stored cotton from the crops of 1860 and 1861 until well into 1863. And by the time shortages developed, there were alternate sources of supply available. The South was strictly on its own.

And so, in a way, we come full circle. The totally inadequate base which the South found itself with in 1861 was caused primarily by a dependence upon cotton. Efforts to move rapidly to develop the means to produce large amounts of manufactured goods were frustrated by a lack of trained manpower, a shortage of equipment and a totally inadequate transportation system, all the result of the dependence upon cotton. In the end, the South, agricultural region *par excellence,* even found its people and armies starving to death in the midst of agricultural surpluses, largely because of the old dependence upon cotton. That they failed to meet their needs is not surprising. That they succeeded as well as they did is remarkable.

function, they created the Union armies. Unfortunately, they hung around far too long. Once they were removed from the scene the Union began to win victories. Not that the Union hadn't been winning victories right from the start. Smashing victories were gained in 1862. But these were in the West and the focus of attention ultimately was in the East. It was in the West, nevertheless, where the leadership was growing. And that was perhaps the most important aspect of it. It grew.

At the beginning of the war, Union generals were no more skillful at their trade than Confederate ones. In addition, they were handicapped by being on the offensive at a time when the balance between offense and defense was shifting decisively over to the defensive. This put a remarkable burden on these men. Not only did they have to learn how to conduct large scale operations, but they had to do it while waging an offensive war. Not many were good at this at the beginning of the war on either side. Lee and Grant both bungled their first operations. Both battles were relatively unimportant in the course of the war. But they do serve to illustrate a significant difference between Union and Confederate leadership, a difference which was not fully evident for several years. This was that Union leadership grew with time. Confederate leadership never did.

In September of 1861 Lee was conducting operations in West Virginia, around Cheat Mountain, designed to conquer that region for the Confederacy. [The Seccesionist state of Virginia didn't believe that a portion of Virginia had the right to secede from it in turn!] Lee managed to bungle the entire affair rather completely. His handling of his subordinates was poor, his staff work execrable, he was excessively optimistic, and his evaluation of intelligence was inadequate. The result was that he failed. At Belmont, Missouri (7 November 1861), Grant did very much the same things with the same result. But here was where the difference emerged. Lee's first offensive operation was Cheat Mountain. His second was the Antietam Campaign of 1862 and his third, and last, was the Gettysburg Campaign of 1863. During each of these operations he made virtually the same mistakes that he made at Cheat Mountain, particularly so at Gettysburg. But after Belmont, Grant went on to conduct still more offensives. With each one his talents improved. After the near-disaster of Shiloh there were no more stupid failures. And Grant rarely fought anything but an offensive battle. The net result was that by 1865 Grant was a very much finer general than he had been in 1861, while Lee was very much unchanged. To be sure, Lee started out being a very good general within certain limits, notably in the conduct of the active defense in a strategic defensive situation. He was a master at that and remained one for the entire war, perhaps the best on either side. But he was never able to do anything else. As with Lee, so too with most other Confederate generals. And as with Grant, so too with many other Union generals.

Actually, there were Confederate officers who improved in stature as generals during the war. Most notable of these was Nathan Bedford Forrest. In fact Forrest, had he but had the benefit of military education, might have been one of the top leaders of the war. But much of his growing was in terms of learning things the West Pointers and "Old Army" men had learned years before. Then there were men like Joseph Johnston and Pierre G.T. Beauregard. These were fairly good generals in 1861 and 1862. But their full talents were never permitted to develop since they both had personal problems with Jefferson Davis, who relegated them to minor posts for the duration of the war, giving them no chance to work on their skills. But in the end the critical factor in this difference between growing and not growing was that the Southerners lacked the incentive to grow. Union leadership at the beginning of the war was generally poor and disaster dogged Union heels through mid-1863 in the Eastern theater. This provided a remarkable spur to improvement. Challenged, Union generalship improved. The Southerners, generally doing well during the first two years of the war, lacked such incentive. There was no reason to bring up new men, no reason to improve staff procedures, no reason to see beyond the need to "defend" the South, no reason to take a broad view of the conflict. Such incentive only developed as defeat began to become more apparent. But by that time it was too late. It was a magnificent example of resting on one's laurels.

The Armies at War.

The Confederacy had a significant advantage in the field in the early part of the war. Through 1862 it was never outnumbered by more than 3:2 on a strategic basis. This gave the Confederacy a rather secure position during this period. With marginally superior manpower, with significantly superior leadership, and with the technological advantages offered by the rifled musket to a defending army, the Confederacy was well able to protect itself during 1861-1863. But as the war went on many of these advantages eroded away. By mid-1863 the manpower ratio had fallen to about 2:1. The strategic situation had become untenable. Union manpower and leadership were becoming more skillful. And the new Union leadership was taking a different look at the nature of the war. Confronted with these changes, uncertain as to how to obtain victory, the Confederate armies became increasingly unable to cope with the military situation. And in the end that meant defeat.

THE WAR FOR THE UNION

In the beginning, in early 1861, both sides pretended that it need not come to a fight. Yet neither could see a viable alternative to war. And neither was willing to back down from its position. So, while the Buchanan Administration gave way to the Lincoln Administration, the Confederacy moved to seize Federal property throughout "Secessia". But one such piece of property, Fort Sumter in Charleston Harbor, refused to surrender peacefully. So there was where it began.

The firing on Fort Sumter (12 April 1861) marks a convenient starting date for the war. But the situation was essentially unchanged for weeks and weeks after that. Neither side had sufficient strength to try conclusions immediately. So both called for volunteers, Lincoln's call resulting in the secession of Virginia, North Carolina, Arkansas and Tennessee, further complicating his problems. However, if fighting had not yet broken out in earnest, there were other ways of waging war. On 16 April Lincoln prohibited trade with the rebellious states, following that closely with a proclamation of blockade. Eventually, the blockade would seal every Southern port tightly. But in April of 1861 time was needed to make the blockade effective. And time was precisely what Lincoln lacked and what the Confederacy had plenty of.

THE WAR IN THE EAST

Generally, the Eastern Theater is looked upon as being the principal theater of the war. This is so because the great battles which were fought there were almost within cannon-shot of the respective capitals of the Union and Confederacy, Washington and Richmond. Federal strategy initially held that the fall of Richmond would bring the war to a swift close. And so the Union made repeated attempts to seize Richmond. Indeed, for virtually the entire war the capture of Richmond remained the primary concern of the Federal armies in the East. But for four years they were frustrated in their efforts by one of the finest defensive campaigns ever waged in modern history.

Bull Run.

In the late Spring of 1861, with tens of thousands of short term volunteers pouring into Washington, Lincoln was under considerable pressure to assume the offensive. Although old General Scott warned him the troops were not yet ready, Lincoln placed Irvin McDowell in command and ordered an advance with the 30,000 men then available in Washington. The Confederacy had some 22,000 men under Pierre G.T. Beauregard about 30 miles west of Washington at Bull Run Creek and another 11,000 under Joe Johnston some 50 miles to the northwest, guarding the Shenandoah Valley. Some 14,000 additional Union troops were told to watch Johnston, but he managed to give them the slip. On 21 July 1861, a hot, dusty Sunday afternoon, McDowell's troops attacked Beauregard's across Bull Run. Initially successful, McDowell's inexperienced men soon had most of the equally inexperienced Confederate troops in retreat, although Thomas Jackson's brigade gave them some trouble, earning itself and its commander the nickname, "Stonewall." Just about this time, the last arriving elements of Johnston's troops from the Valley came up, however. This, plus a confusion in uniforms which permitted some Confederate troops to come up very close to the Federal lines, caused the Union position to crumble. McDowell ordered a retreat which soon degenerated into a rout. Fortunately, the Confederate troops were in almost as bad shape as the Federals and a pursuit was impractical. Union losses were some 2,900 men, Confederate losses about 1,800. The war was definitely going to be a long one. And Lincoln soon called George McClellan out of West Virginia, where he had gained some petty victories, to assume command of the armies.

McClellan, a fine administrator and a fair strategist, soon had the Army of the Potomac in hand, turning it from a mass of three-year volunteers into a tough, well-trained army. But McClellan lacked the strength of character and intestinal fortitude necessary in a good general. Although he would often be in a favorable situation with considerable force, he never managed to push hard enough at the right time, but always hung back fearfully. Nevertheless, some of his operations were brilliantly conceived, such as the Peninsular Campaign (4 April – 19 July 1861).

The Peninsula.

Making effective use of the Union's mastery of the sea, McClellan transferred some 100,000 men down the coast of Virginia and landed them on the Virginia Peninsula. But then he faltered, giving the Confederacy time to

transfer troops from the Washington front and the Shenandoah Valley, where Jackson was completing a brilliant, but essentially diversionary, campaign against small Union forces. Through April, McClellan conducted a leisurely siege of Confederate positions on the Peninsula. When, on 4 May, the Confederate troops finally fell back, he pursued listlessly, only joining the battle on the last week in May, by which time Joe Johnston had some 60,000 men to confront McClellan's 85,000 or so. Now began a series of bloody battles which would see the Army of the Potomac reach within five miles of Richmond, only to be halted for almost a month by effective Confederate defense and ineffective Union leadership. Then on 26 June, Robert E. Lee, who had but lately replaced Johnston in command of the forces defending Richmond, launched a series of well led, well conceived counterattacks. In the Seven Days' Battle which followed (26 June – 1 July 1861) Lee demonstrated for the first time his remarkable ability to conduct an active defense. By 1 July the Army of the Potomac was backed up against the coast, its commander almost totally incapable of undertaking further operations. The Peninsular Campaign, which had opened with high hopes, was over. It had cost the Union about 30,000 men and the Confederacy about 20,000.

Second Bull Run.

While McClellan was being beaten in the Peninsula, Lincoln had appointed John Pope to command the forces in front of Washington. Pope had conducted some successful operations in Missouri. Advancing with some 45,000 men to threaten Lee's rear, he managed to permit "Stonewall" Jackson to halt him with but 12,000 men. And then Lee brought up the rest of the *Army of Northern Virginia*. Pope fell back towards Bull Run where a second battle was waged on 29-30 August. The Union forces, ineptly handled, disintegrated. The entire campaign had lasted barely two months (26 June – 30 August) but cost the Union some 15,000 men and the Confederacy some 10,000. But the fault was not the troops, it was the leadership. McClellan and Pope were completely unsuited to the tasks confronting them, although both were talented within certain limits. Even Lee was not up to handling an offensive operation of the scope now being conducted. And he proceeded to prove it.

The Civil War, 1861-1865: General Movement of the "Front"

= 1 July 1861
= 1 Jan 1862
= 1 Jan 1863
= 1 Jan 1864
= 1 Jan 1865
= 8 Apr 1865

Antietam.

On 5 September, Lee took the *Army of Northern Virginia* across the Potomac and into Maryland, where it was hoped that a rising of Secessionists would result from the incursion. But the rising never came as most Marylanders fervently wished the war was elsewhere, rather than being active partisans of one side or the other. And Lincoln, desperate, appointed McClellan to command the army again. Moving with unusual energy and speed, McClellan soon had Lee pinned against the Potomac River near Antietam Creek, in western Maryland. And there he proceeded to lose thousands of men in a series of ill-conceived, poorly coordinated frontal attacks. Nevertheless, it was the first Union victory in the East, albeit a less than smashing one. The *Army of Northern Virginia* was back in Virginia on 19 September, having lost slightly more than 15,000 men. McClellan's casualties had been slightly less. But the victory had far reaching political consequences. It gave Lincoln the opportunity to issue the "Emancipation Proclamation" which greatly improved America's relations with Britain and helped assuage the feeling of Northern abolitionists, while at the same time trying to conciliate some slaveholders. It was a powerful political weapon which had a marked effect on the course of the war. Not the least of these effects was that McClellan left the army, having clashed with Lincoln over the document. In his place came Ambrose E. Burnside, "a brave soldier but a third-rate field leader."

Burnside didn't lack the courage to order the attack. He lacked the brains to organize one. And he was completely overwhelmed by the task of running an army. To his credit he didn't want the appointment, feeling that a corps was about the best he could handle. He was right.

Fredericksburg.

On 7 November 1862 Burnside began a series of maneuvers which eventually brought him and Lee face to face across the Rappahanock River at Fredericksburg. There, on 10 December, the Army of the Potomac began crossing over to the Confederate side of the river, aided by favorable weather and the fact that Lee had spread his army a bit too thinly. On 13 December Burnside threw his army against Lee's in a series of frontal assaults. Lee, with his troops well positioned, beat back each and every assault. By nightfall the Army of the Potomac had taken 10,000 casualties, out of 110,000 engaged, while the *Army of Northern Virginia* had lost 5,000 out of about 60,000. Fortunately, for some reason, Lee did not counterattack. Lincoln replaced Burnside with "Fighting Joe" Hooker, who had proven himself a fair corps commander.

Chancellorsvile.

Hooker found the army in terrible shape, with morale deteriorating and desertion high. He soon proved a remarkable administrator. The Winter and Spring of 1863 were spent in rebuilding and reorganizing. And then, on 27 April, Hooker launched his campaign by sending part of the Army of the Potomac on a long, but brilliantly conceived and well executed flank march around Lee's main position at Fredericksburg. But, with Lee's army greatly outnumbered (about 60,000 to 110,000) and effectively flanked, Hooker lost his nerve. Inexplicably the army halted, just when it could have smashed Lee up against the Fredericksburg position. Lee, reacting brilliantly to the desperate situation, divided his small army in three parts: one to screen the Fredericksburg position, one to hold the main portion of the Army of the Potomac in front, and one under Jackson, to execute a long and dangerous flank march into Hooker's rear. Each of these Confederate forces was greatly inferior to the forces in front of them. At any time during this critical portion of the campaign (1-2 May 1863) Hooker could have moved forward and crushed any portion of Lee's army. Instead, he vacillated, permitting Jackson to get 26,000 men on his right flank, which fell to pieces. But even then, Hooker still had the strength to crush Lee. The strength perhaps, but clearly not the will.

The Campaign and Battle of Chancellorsville (27 April – 6 May 1863) cost the Union 17,000 men and the Confederacy 13,000, one of whom was Jackson himself, accidentally shot by his own pickets while on reconnaissance. Chancellorsville was to be Lee's most perfect battle and one of the most perfectly conducted defensive actions in history. But it was also deceptive. Lee had not broken the will of the Army of the Potomac, only that of Hooker. The troops were still full of fight when Hooker led them back across the Rappahannock on 6 May. Unfortunately, Lee did not fully understand this. And he made a deadly error.

Gettysburg.

In mid-1863 the Confederacy was under severe pressure everywhere. The Mississippi was almost under Union control, with only the twin bastions of Vicksburg and Port Hudson holding out. The coasts were tightly blockaded. The balance of force was turning ever more heavily in favor of the Union. The South needed an offensive victory to revive its spirits. And Lee intended to give it one. But where? He chose to go into central Pennsylvania, with the dual objective of relieving pressure in the West and collecting stores and supplies for the coming Winter. Longstreet suggested that now was the time to stand on the defensive in the East and take one corps to the West to conduct operations against Federal forces in Tennessee and possibly invade Ohio. But Lee overruled him. Even more fatally, Lee left Longstreet in the dark as to the kind of battle he was going to conduct. This set the stage for Lee's invasion of Pennsylvania and the Battle of Gettysburg.

On 25 June, Lee crossed the Potomac again and marched into Maryland, taking along some 75,000 of the finest troops the South had to offer. The Army of the Potomac followed. But Lincoln had become so disenchanted with Hooker that he replaced him with George G. Meade, a cautious but able corps commander. And Meade made very few errors even if he wasn't as brilliant as McClellan or Hooker. Keeping the 85,000-man Army of the Potomac well in hand and between Washington and Lee, while Lee spread his people all over Pennsylvania, Meade moved up cautiously. The two armies ran into each other near the little town of Gettysburg on 1 July 1863. For three days Lee hurled assault after assault against Meade, who clung to a fine defensive position and fought with all he had. For the first time the tables were reversed: Lee was doing the attacking and someone else had the advantages of a defensive posture. Lee, who erred in even attempting an offensive battle, was badly beaten. But Meade, conservative as always, was unwilling to follow up his advantage. Lee had taken over 28,000 casualties, and was losing still more men daily through desertion. Meade's loss of 23,000 was replaced almost instantly. But Meade, overcautious, threw his advantage away and let Lee slip back into Virginia. The two armies settle down into their old positions on 24 July. The war had reached a critical juncture and mastery of the battlefield had begun to pass to the Union in the East, as it already had in the West.

Through the Fall of 1863 and the Winter and early Spring of 1864, Lee and Meade conducted several important operations against each other. But both were being extremely cautious and a major engagement failed to develop. Although Meade was hurting Lee far more than Lee was hurting Meade, Lincoln was dissatisfied. At the rate things were progressing, the war could last forever. So on 9 March 1864, Lincoln appointed U.S. Grant, most successful of the "Western" generals, to command all the Federal armies. Grant left Meade in command of the Army of the Potomac, but made his headquarters with it in the field. Back in Washington, Henry Halleck, a poor field officer but able administrator, was appointed chief-of-staff to relieve Grant of administrative burdens. Lincoln had said of Grant, "...this man fights." Grant intended to prove it.

The Wilderness to Petersburg.

On 3 May 1864, Grant sent the Army of the Potomac across the Rapidan River with some 120,000 men against Lee's 64,000. Thus began a bloody series of battles in the Wilderness, around Spottsylvania Courthouse, along the North Anna River, and finally, on 3 June, at Cold Harbor, in front of Richmond itself. But, although repeatedly and badly hurt, the Confederate armies refused to disintegrate. Casualties were appalling on both sides, something like 50,000 for the Union and 20,000 for the Confederacy. But the situation soon stalemated in front of Richmond. And trench warfare began around Petersburg, a small town a few miles south of Richmond, as Grant tried to turn Lee's flank. Each attempt to turn the lines only extended the trenches further. Casualties mounted and results were insignificant. But Grant recognized one vital factor. The *Army of Northern Virginia* was pinned down defending Richmond. As long as he could keep up the pressure, however high the casualties, that army would be unable to recover its balance. So, instead of retreating as McClellan had in 1862, he hung on. Lee would be given no chance to rebuild his army. The situation would remain static through the winter.

Curiously, the glamor theater of the Civil War was the East. And to be sure great battles were fought there and brilliant strokes delivered. But the war in the East was essentially a stalemate. It was in the West where decisive actions were being fought. And it was in the West where the war was won.

THE WAR IN THE WEST.

While the war in the East was an almost uninterrupted string of Union disasters, the war in the West was very much an almost uninterrupted string of Union successes. But events were not nearly so concentrated in the West. The theater was far larger, the objectives more numerous, the armies spread more thinly than in the East. But the battles were no less bloody, though they were far more decisive.

The Diplomatic Front

The basic goal of Confederate diplomacy throughout the Civil War was simple: to bring Britain, and possibly France, into the war against the Union. This was, to a great extent, a fantastic concept. But it survived right through to the end of the war, as the Confederate leadership became increasingly fantasy-oriented.

The Confederate objective was predicated on the assumption that the British and French would suffer as much, or more, from the Union blockade as the South itself was suffering. They reasoned that, with cotton shipments stopped, the British and French mills would soon cease operation. The resultant depression would force British and French action to reopen the cotton trade. This would inevitably lead to war with the United States and to independence for the Confederacy. In reality, nothing could have been more fantastic.

The decade of 1850-1860 was one of unparalleled prosperity for the "slavocrats" of the South. Cotton production, although increasing annually, was barely sufficient to meet the demand. Thus, the price tended to rise. But in 1860 a record crop was produced. This caused a veritable glut on the market and the price of cotton began to decline in 1860 and went on declining almost up until Lincoln's proclamation of blockade in April of 1861. The British market was glutted to the extent that many mills closed down in 1861, not from a shortage of cotton but from overproduction. Indeed, even with mills closing down the price remained stable. Many mill owners, it was noted, hoped that the blockade would become more effective than it was. A long, successful blockade would permit the mills to clear up the existing surpluses while the prices maintained their level. The example of the North may be taken as fairly typical of the situation of mill owners both in the United States and Britain and France.

The North had accumulated some reserve stocks of cotton in the 1860-1861 period of overproduction, much as had Britain and France. As a result, in 1861-1862 the mills ran at about two-thirds capacity, consuming cotton from reserve stocks. In 1862-1863 things began to get tight as the reserves were exhausted with the mills running at from one-quarter to one-half capacity. But the Union armies were beginning to overrun cotton producing areas by this time, so the mills never actually shut down completely. The situation was very much similar in Europe.

Britain and France had several millions of bales on hand when the blockade was imposed. This was more than enough to keep the mills going through 1862, although some were forced to close. By 1862-1863 the British mill owners were locating alternate sources of supply in India and Egypt, sources which had always been there but which had been of greater cost than the American cotton. So in the end, the blockade benefited many British mill owners. It permitted them to get rid of surplus stocks of cotton without a significant decrease in the price of finished goods. And it was these very same mill owners upon whom the Confederacy relied to pressure the British government into going to war with the United States!

[Incidently, although the mill owners did not help overmuch, the mill *hands* often did, particularly when mills were shut down, as much for reason of overproduction as for the shortage of cotton. But the British mill hands, most of them belonging to evangelical and anti-slavery Christian sects, were generally in support of their American cousins who belonged to the same evangelical Christian, and abolitionist, groups. So they tended to support the Union. To show its appreciation, the Lincoln Administration helped civilian agencies organize relief supplies for unemployed mill hands and their families in Lancashire.]

But the cotton situation was not the only reason why Britain was unlikely to go to war with the United States. The British wheat crops of 1860-1862 were generally poor. This forced a reliance upon foreign sources. And most of the wheat was imported from the United States. In Parliament, whenever pro-Confederacy speakers attempted to get support of the South, pro-Union members very often used the issue of the "corn" supply to defeat them. Later, of course, with the Emancipation Proclamation, the pro-Union faction had an even more potent argument on their side.

Ultimately the Southern efforts to bring Britain and France into the war were based on the false assumption that cotton was king. In the South it was, but not necessarily in the rest of the world. Particularly since the stuff could be obtained from other sources with considerably less pain than a war. Moreover, the idea that Britain or France would come to the South's aid in much the same way that France came to the American colonists' aid in 1777 was based on a false analogy. France did aid the American rebels in 1777, but only after the Americans had proven themselves capable of inflicting a truly crushing defeat on the British armies sent to overwhelm them. Saratoga had resulted in the capture or destruction of fully 20% of British forces in North America. No Confederate victory had even come close, and the Confederacy had never snuffed an army completely out of existence as the Americans had done at Saratoga. This odd bit of history did not affect the Confederate leadership. As the war went on, the fairy tale concept of British intervention was gradually to increase in importance. Yet, if British and French recognition had not come in 1861-1862, when the South was doing well, why should it have come in 1863-1865 when the South was crumbling and when the Emancipation Proclamation had made intervention morally unthinkable? Now none of this is by way of saying that Britain or France might not have gone to war with the United States for *other* reasons. But good fortune and good diplomacy helped avert the threat of war.

The most dangerous situation was the so-called "*Trent* Affair." On 8 November 1861 Captain John Wilkes of the U.S. frigate *San Jacinto* fired a few shots across the bows of the Royal Mail Ship *Trent* and then boarded her. RMS *Trent* was carrying two Confederate diplomats, en route to Britain and Europe as part of the Confederate diplomatic effort. Wilkes removed these men and let the RMS *Trent* go on its way. Although hailed as a hero in the North, Wilkes' actions were highly irregular and in violation of international law. Britain protested vigorously. Fortunately, the original draft of the protest was passed on to Queen Victoria, who showed it to her husband, Prince Albert. The original draft was so forceful that Albert was appalled. If delivered it would most certainly have meant war. But Albert favored the Union and remembered the "corn" supply. So he redrafted it and the new version was sent. It demanded that the U.S. return the two diplomats to Britain and make a formal apology. Secretary of State Seward, meanwhile, had been trying to find a way out of the mess Wilkes had gotten him into. He knew that Britain was about to send a strong note, but he also knew that Britain's position was absolutely correct. Fortunately, Prince Albert's version of the note was delivered. This permitted Seward to return the diplomats and *offer* a formal apology. The British government, satisfied, let the matter go at that. It was the closest the two nations came to war and had been handled most carefully. [Indeed, a British regiment on its way to reinforce Canada in the event of the incident leading to war was given permission to put in at a port in Maine when storms closed the Gulf of St. Lawrence. The regiment then marched across Maine, generally to American cheers, and entered Canada.] It was probably the most cordially handled crisis in Modern History.

The only other possible foreign assistance to the Confederacy was from France. But by 1862 France was becoming involved in Mexico. And Britain was decidedly unhappy about that involvement and several other things. If Napoleon the Little had attempted to go to war with the Union, it is quite likely that Britain might have taken the opportunity to cut him down.

So in the end, the Confederacy's diplomacy was a decisive failure. No one was willing to come to their support. Indeed, only one tiny country had even recognized them. This was the German Duchy of Saxe-Coburg and Gotha. But then, the Duke had married a Southern *belle*.

The war in the West began slowly, after Bull Run. But then it developed a life of its own, focusing on the river systems initially and then spreading through the heartland of the Confederacy.

Forts Henry and Donelson.

By the end of 1861 the Confederacy had established a string of outposts across central Kentucky, bolstered by a set of forts near the Kentucky-Tennessee border, where the Cumberland and Tennessee Rivers run close together. In February 1862, U.S. Grant led 20,000 men and a small flotilla of gunboats against these forts. They fell within a week. The surrender of Forts Henry and Donelson split the Confederate front in Kentucky and Tennessee. It also liberated large pro-Union areas. Finally, the move permitted the Union armies to advance deep into Tennessee and forced the Confederate commander, Albert Sidney Johnston, to surrender virtually all of both states without a fight in order to concentrate and avoid defeat in detail.

Shiloh.

The following April, Grant brought 35,000 men to the vicinity of Shiloh Church in southern Tennesse, with the intention of beginning an advance against Memphis. But Johnston had collected some 40,000 troops and launched a surprise attack. The resulting battle (6-7 April 1862) was one of amateurs, of men who scarcely knew how to fight. Yet it was one of the hardest fought battles of the war. Grant, surprised and badly defeated on the first day, clung tenaciously to his position while reinforcements came up. On the second day he counterattacked, destroying the cohesion of the Confederate army, now under Pierre G.T. Beauregard, after Johnston fell in action. The losses were heavy, over 13,000 for the Union and 10,000 for the Confederacy. But the battle broke Confederate strength in Tennessee. Confederate fortresses along the Mississippi as far south as Memphis fell to combined land and riverine operations, while Grant assumed a secondary role to Henry Halleck who wanted some of the glory. Meanwhile, the Union Navy, led by David Farragut, seized New Orleans virtually unopposed on 25 April 1862. With Grant's success in controlling the upper reaches of the river and Farragut's in controlling the lower reaches, the Confederacy was in danger of being cut in two. It was time for decisive action. Instead, Braxton Bragg, the new Confederate commander in the West, decided to attempt a strategic diversion.

Bragg's Invasion of Kentucky.

With 35,000 men, and a further 20,000 in two other commands more or less cooperating with him, Bragg launched an invasion of Kentucky. But the Union forces there, under Don Carlos Buell and later William Rosecrans, fought tenaciously. Through the Summer and Fall of 1862 the two armies clashed, with the Union gradually pushing Bragg towards Chattanooga, the final battle being a bloody affair at Murfreesboro on 31 December 1862–2 January 1863. Bragg's invasion accomplished little. Grant still had about 40,000 men in western Tennessee and northern Mississippi, and he intended to seize Vicksburg, militarily the most important town on the Mississippi after New Orleans. But seizing Vicksburg would not be easy. Lengthy preparations would be necessary, and Grant was somewhat wary of the threat Bragg posed. Meanwhile he organized his expedition and cleared northern Mississippi of Confederate forces.

Vicksburg.

In mid-December Grant sent William T. Sherman down the Mississippi with 32,000 men in an attempt to take Vicksburg by storm. But the attempt failed. Rather than withdraw all the way back to Memphis, Grant held Sherman's forces in readiness near Vicksburg. He held them there all winter, while preparing for another attempt.

With the onset of spring Grant began his operations, finally getting under way on 31 March. Through the winter he had undertaken a series of four attempts to by-pass the Confederate defenses by moving through swamps and bayous and such. All attempts were frustrated by terrain more than anything else. Now, in a brilliant strategic maneuver, Grant struck south of Vicksburg with over 40,000 men, crossing the Mississippi River and vanishing into the center of Mississippi. This was an incredibly unorthodox maneuver, entailing the total abandonment of Grant's lines of communication. But it worked, for the Confederate commander at Vicksburg, John Pemberton, spent days trying to locate Grant's lines of communication. Meanwhile, Grant marched across Mississippi and soundly defeated a small relief army under Joe Johnston in the central part of that state. With the possibility of relief now slim, Grant turned his attentions to Pemberton, and in a series of sharp actions forced him back into the Vicksburg defenses. This was Pemberton's principal error (but Jefferson Davis was primarily responsible, having ordered Vicksburg to be held). Had Pemberton kept his army free and joined with Johnston, they would have had 60,000 men and might have been able to contest control of the Mississippi far longer than was the case. Once bottled up, on 18 May, it was only a matter of time.

Vicksburg and 30,000 men surrendered on 4 July 1863 after a determined siege. The Mississippi now ran "unvexed to the sea," for the fall of Vicksburg caused the surrender of Port Hudson, the only other important fortress left on the river. The cost had been great, Union casualties in the period from May through the surrender alone totalling 9,000 men. But the operation paid incredible dividends. In addition to capturing some 30,000 troops and inflicting serious casualties on the Confederate armies, Grant's operations around Vicksburg resulted in the splitting of the Confederacy. The Far West, which had played an important role in supporting the Confederacy before the fall of Vicksburg, now became a sideshow.

Chattanooga.

But while Grant was operating in the vicinity of Vicksburg, Rosecrans and Bragg glared at each other across Southeastern Tennessee. On 26 June, as Grant pulled his siege lines around Vicksburg tighter, Rosecrans led 64,000 Union troops against Bragg's 44,000. Thus began a series of bloody battles around Chattanooga which would not end until 25 November. Victory, at first apparently firmly in Rosecrans' hands, eluded the Union forces. Gradually the Confederates were able to force the Union armies back to Chattanooga. By mid-October the situation was desperate. Lincoln appointed Grant supreme commander in the West, and Grant replaced Rosecrans with George Thomas, a loyal Virginian. With Thomas to conduct the defense of Chattanooga, Grant rushed reinforcements and supplies forward. Then, reaching the city itself, he organized the defenders into two armies, the Army of the Cumberland under Thomas and the Army of the Tennessee under Sherman. And on 24-25 November Grant fought the Battles of Lookout Mountain and Missionary Ridge, routing Bragg's army at the cost of 5,800 casualties, while inflicting 6,600. But here Grant erred, for he failed to pursue. So Bragg was allowed to fall back into Georgia.

The focus of operations in the West now moved into Northern Georgia. But the onset of winter halted serious operations. Through the winter and early spring the armies were reorganized, reinforced, and resupplied. Meanwhile, Grant was called East and Sherman assumed command. And on 6 May 1864 Sherman began operations against Atlanta.

Atlanta.

The Confederacy could spare but 50,000 men to face Sherman's 100,000. But the Confederate leadership was superb. Joe Johnston decided to wage a delaying campaign, and in this he was ably assisted by Bedford Forrest, the finest amateur soldier of the war and one of the best under any circumstances. Johnston and Forrest were able to avoid a major clash while at the same time keeping Sherman's gains to a minimum. It took over two months for Sherman to cover the less than 100 miles from Chattanooga to Atlanta. However, this brilliant delaying operation gained little admiration from Jeferson Davis, who disliked Johnston anyway. On 17 July 1864 Davis replaced Johnston with John B. Hood, a Texan, whom he said was "a man who will fight." And Hood did fight. But Sherman won all the battles. Between 20 July and 31 August 1864, Hood and Sherman fought four major battles. Each time, Sherman came away the victor. Finally, fearing that his army would become bottled up in Atlanta, Hood abandoned the city, burning it on 1 September 1864, and retreated into Western Georgia. Sherman entered the burning city on the next day. A few days later he ordered the population evacuated and finished the job of destruction. Then he went off in pursuit of Hood.

But on 5 October 1864, Hood decided that if he couldn't fight Sherman he might yet be able to distract him, and launched an invasion of Tennessee with some 40,000 men. Sherman was unimpressed, sending Thomas and about 30,000 men to cover his rear and defend Tennessee with whatever additional troops that could be found. Sherman began his famous "March to the Sea."

The March to the Sea.

This was one of the most important strategic operations of the war. In effect, Sherman was doing what Grant had done at Vicksburg, abandoning his lines of communication and operating completely independent of any supply lines. It was absolutely necessary in order to bring the war to a swift conclusion, for by marching to the sea Sherman would split the Confederacy yet again. Nor was the operation without danger, although the Confederate armies were greatly outnumbered by this time. Hood's troops, on a wild goose chase, might come back yet to hinder his progress. And there were still tens of thousands of unconscripted men in the South, time expired veterans, and state troops and militia not yet committed to battle. But Sherman was determined. He set out on 12 November with 62,000 men and 20 days rations and reached Savannah on 10 Decem-

The Politics of War

Perhaps no conflict in American History has engendered so much domestic political infighting nor been so influenced by domestic politics as was the Civil War. On both sides decisions were taken, assignments made, operations undertaken, attacks ordered with seemingly unimportant political reasons to justify them. Nevertheless, in many cases the political decisions were so crucial that, although they might lead to bloody defeat, they had to be taken. And in a sense the defeat of the Confederacy itself was very strongly influenced by the political scene in Secessia.

The basic problem on both sides was that neither had absolute control over its component states. Although we tend to think of the Union as a cohesive whole, it is important to realize that the individual states were far more influential and had far more power in 1861 than they do today. Needless to say, the situation in the South was even more fluid. After all, the whole question of secession, at least superficially, revolved around the issue of states' rights versus government power. It would be impossible to go deeply into the political machinations which influenced the war effort on both sides, but some idea may be gained of its importance by way of a few examples.

Both sides were forced to appoint generals for political considerations. Thus, certain generals had to come from certain states, to insure their continued enthusiasm for the war. In addition, in the North, certain political factions had to be satisfied. Grant himself would probably never have risen to command anything larger than the 21st Illinois were it not for the political pull of John A. McClernand. The favor came back to plague Grant, however, for McClernand wangled a brigadier's commission for himself and muddled several operations during Grant's initial drives in the West. Similarly, Nathaniel Banks had to have a commission as general in order to keep the Abolitionists happy. And McClellan had to be treated carefully because he had connections with the anti-abolitionists. Then too, there were a number of good officers, such as Thomas and Farragut and Sherman, who suffered some handicap from having very obvious Southern connections. In several cases such officers were unable to hold very high commands until rather late in the war.

In the South things were not as severe, since the political problems were not influenced by factionalism so much as by particularism. Every state had to have a few generals. Jefferson Davis managed to handle this pretty well. Except that he had an unpleasant, highly conceited know-it-all attitude which led him into personal disputes over trivial matters with several of his generals. The net result was that capable men like Pierre G.T. Beauregard and Joe Johnston were often sitting out critical periods of the war in obscure, unimportant posts. But if Davis' political problems were somewhat less serious than Lincoln's, his problems with state governments were far, far more serious.

The key to this, of course, was states' rights. Each Southern state considered itself sovereign, the Confederacy being merely a loose association of several such sovereignties. As such, the consensus was that the central government did not have the power to destroy the individual states. This ultimately meant that the Confederacy never evolved a uniform system of taxation, of draft deferments, or of the division of available supplies. Each state did what it felt was its share. A good example of this is that in the winter of 1864-1865, while Lee's army froze in the trenches of Richmond and Petersburg, the "sovereign state" of Alabama had over 60,000 new uniforms in its warehouses! Likewise, Davis was often unable to get the states to loosen up on their manpower; each exempted men from the draft according to its own policies. The net result was that large numbers of men were never available for military service. Now to a somewhat lesser extent, these were very much the same problems which Lincoln faced. But Lincoln never let it get to him. And in the end he was the more astute politician.

Maj. Gen. George McClellan

Lincoln recognized that as long as the armies were doing something, even if it led to a reverse, the people of the North would be heartened. Of course, too many reverses were as dangerous as inactivity. But, and this was something that McClellan never understood, the Nation had to know the war was going on and the army was doing something. Thus several operations were undertaken for purely political effect. Much as President Roosevelt proposed the "Doolittle Raid" on Tokyo in 1942. The military effects were slight, but the political impact back home was terrific. Like McClellan, Davis never properly understood the interrelationship of war and politics. To him, war was winning victories. So he replaced Joe Johnston with Hood in northern Georgia. Yet Johnston's strategy was the soundest possible. Johnston intended to keep Sherman's gains to a minimum and await the outcome of the elections in the North. Instead, Hood went out hunting for bear and Sherman whipped him and handed Atlanta to Lincoln barely two months before election day. The victory helped seal Lincoln's electoral triumph.

Perhaps the single most explosive political issue of the war, on both sides, was slavery. In the North Lincoln was under considerable pressure from the Abolitionists to do something about the institution. But he accurately gauged the feeling of the average Northerner, who was mightily uninterested in the question. Nevertheless, he kept it in mind as a potent political weapon. And in early 1862 he began to seriously consider doing something about the matter. But here he moved carefully. In order to make such a significant political move he had to wait for a Union victory. Although McClellan's victory at Antietam was marginal to say the least, it was enough. Shortly after Antietam, Lincoln issued the "Emancipation Proclamation." This was one of the cleverest political tools ever devised for it actually said and did nothing. In it Lincoln declared that as of 1 January 1863 slavery would be illegal in all areas still in rebellion against the United States. He freed not a single slave, for only in Secessia was the measure to apply, but Secessia was not effectively under Federal jurisdiction. Now the measure was designed with several points in mind. First, it satisfied the abolitionists to some extent. Second, it gave Britain a pause, since the issue of slavery was very potent in Britain and most Britons, even pro-South ones, were anti-slavery. And lastly, it was a peace gesture towards the South, for if the rebellious states returned to Federal control before the deadline, slavery might still be permitted to survive. But of course, no one seriously believed that any of the seceded states would voluntarily return to the fold. So in the end the measure meant emancipation. And if some of the slaves were freed, it would inevitably follow that all of them would be freed.

One interesting aspect of the Emancipation Proclamation was that it cleared up the politically potent question of employing black troops. Several states had proposed raising black regiments, each time to be rebuffed by Federal authorities. If black men fought against the South they would have to be free. But with the Emancipation Proclamation they were *going to be free.* So the recruitment of black regiments began, some 290,000 black troops eventually serving, mostly recruited from the South. It was a welcome addition to the Union manpower.

The slavery issue affected the South in an entirely different way. It is quite likely that the South might have obtained British recognition as early as 1861 had it but freed the slaves. But this simple act was politically impossible. Ultimately, the South had gone to war to preserve slavery and could not interfere with the institution even on pain of losing the war. Thus, a vast reservoir of manpower remained untapped throughout the war, until total defeat loomed. Then, in the last days of the Confederacy a measure was adopted which called for the recruitment of 300,000 slaves. A few companies were organized before the final collapse. But even that much of a concession was an admission of failure. In the end, the political issue which had caused the war helped the South to lose it.

ber, having cut a swath of destruction some 50 miles wide across the heart of Georgia. But the destruction was neither wanton nor brutal. Sherman concentrated on industrial installations, railroads, and bridges. Indiscriminate plunder and brutality were severely handled. Much of the wanton destruction was committed by deserters, both Union and Confederate (by this time there were over 100,000 Confederate deserters). Sherman's conduct was such that many Georgians made public thanks for his efforts to control the wilder elements which the war had let loose. But nevertheless, his operations were probably the last blow. The Confederacy, cut in two along the Mississippi, cut through again in Georgia, and with its capital under close investment, had not long to live.

The End.

The end of the war came slowly, a brief reprieve for the Confederacy arriving with the onset of winter. But it was a brutally cold winter and casualties in Lee's army before Petersburg were appalling. Meanwhile, the Union Navy tightened up the blockade, as it had been doing for four years now. The ports and coastal regions had been gradually seized by the Union army and navy until, in February 1864, all were under Federal control. Nor did the relentless pressure cease.

Charleston fell to Sherman a short while after he reached Savannah. Pausing briefly to revictual his troops, Sherman set out again. Joe Johnston, recalled to service, made some attempts to halt the relentless advance, but had little means at hand, and met defeat in several short actions. Federal cavalry raided through Alabama. Hood's army in Tennessee dissolved. Grant began preparations for a final assault on Richmond. At the end of March Grant was ready and began to shift his troops further around the Southern flank of Petersburg. Meanwhile, Sherman was marching into the heart of North Carolina and the two Union armies were within 125 miles of each other. On 3 April 1865 Lee began the evacuation of the Richmond defenses. But on 9 April, after a short fight at Appomattox, he surrendered. Joe Johnston, receiving the news four days later, surrendered his command to Sherman on 14 April. The war was over, except for the surrender of some minor Confederate forces scattered across the face of Secessia, or what was left of it.

THE OUTCOME.

On 14 April 1865, the same day that Joe Johnston surrendered his exhausted army to Sherman, John Wilkes Booth shot President Lincoln. By this action, undertaken in a misguided retribution for the defeat of the Confederacy, any chance for a "just peace" for the South was virtually destroyed. With Lincoln gone, the "radical" anti-South and abolitionist factions of his party were able to ram through Congress a Reconstruction program which was, in its way, as unconstitutional as seccession itself. The program was nothing less than organized vengeance against the South to punish it for the act of secession, even going so far as to assert that the Southern states had seceded in law as well as in fact. This led to long years of military administration in the South, and to the activities of the "Carpetbaggers and Scalawags." Reconstruction was by no means as rigorous as it came to be portrayed. It was unquestionably unjust, often administered by anti-Southern fanatics. But it generally did not reach the bulk of the people, and some of its actions were absolutely necessary, such as the Freedman's Bureau, which attempted to get former slaves on their feet. But the South was a land of myth, such as the pre-war myth of the happy slaves and the master who loved every one of them. And so, in the decades after the last Federal troops left the South, as the old order reasserted itself, the myths of the "Lost Cause" and of "Reconstruction" were evolved. These distorted the facts so fiercely that, by the mid-1930's, virtually the entire nation was more or less sympathetic to the "gallant" South, preferring to ignore thousands of lynchings, the continued *de facto* servitude of millions of Americans, and the vicious brutalization of Southern life. It was a situation which would have appeared abominable to many of the South's most notable leaders during the war itself. Men who, however misguided, had fought bravely and well for what they believed. But dying for a cause does not sanctify it. And the Southern "cause" still plagues the nation.

RECOMMENDED READING

The period of the Civil War is probably the single most written about period in American History and the literature is voluminous. Rather than attempt to present an extensive listing of materials which are likely to be of interest, the following works are suggested as a basis for further reading.

Battles and Leaders of the Civil War is a four volume work originally published in the 1880's but reprinted about a decade ago. *B&L* contains articles, notes, letters and what not from prominent and not-so-prominent individuals from both sides of the conflict. It is an indispensible source of information. These articles, incidentally, were originally published by *The Century Magazine,* long since defunct. The files of this publication, available at various major libraries, contain still more materials on the conflict for the serious student of the subject.

Allan Nevins' *The War for the Union* and Bruce Catton's *The Centennial History of the Civil War* are both generally available in most libraries. Nevins is probably the more scholarly and Catton the more literary, but both are valuable discussions of the war. Both have extensive bibliographies for those interested in further reading.

For those looking for a discussion of the relative advantages and disadvantages of the two sides, Donald's *Why the North Won the Civil War* (Louisiana: 1960 and Collier: 1971) has a series of articles concerned with the economic, military, diplomatic, social and political problems of the South during the war. It, too, has an extensive bibliography.

On the "Lost Cause Myth" there is Osterweis' *The Myth of the Lost Cause* (Archon: 1973), also with an extensive bibliography.

General Lee surrenders the Army of Northern Virginia to General Grant at Appomattox Courthouse, 9 April 1865.

Sackson on Games

Game reviews, as compared to book or movie reviewers, are faced with a problem. When you've read a book you've read it, and when you've seen a picture you've seen it, but games have to played — and usually more than once. This entails finding someone — or two, or three — to play with and lots and lots of time. With the flood of games that cross my desk each year, I could easily devote all my waking hours to testing. But my family has developed the habit of eating, and this column — a labor of much love — unfortunately doesn't provide them with many meals.

Each game that I review is played at least once and usually more. Beyond that I fall back on my over thirty-five years of serious study in the field of games. This enables me to "play" a game while reading the rules, much as a serious student of music can "hear" a composition while reading the score. The three games covered this time present a particular problem since, in their ramifications, each one is really many games. I believe that I know them all, but there is always the chance that I may have missed a possible beauty — or a potential bug.

BUSINESS STRATEGY is an updated and expanded version of *Management,* originally published in 1960. In fact, you will find several references to the "Tournament Game" that are a hangover from the *Management* days and have no meaning in the present game (when you do, realizing that in this context both "Basic" and "Tournament" refer to the old game, will help you to understand what it intended). *Business Strategy* can be played by from two to four players, and at three different levels of complexity — from the "Family Game," through the "Basic Business Game," up to the "Corporate Game." A "Classroom Game" is also included which allows for participation by any reasonable number of players.

The "Family Game" is quite easy to learn and calls for a minimal amount of paper work. Each player is the president of a manufacturing concern and starts with $10,000 in cash. He also starts with four raw material units (RMU's), two factories, and two finished inventory units (FIU's) — all designated by markers in the player's section of the board. The play lasts for twelve "months" and the president who has increased his cash holdings the most in that time is the winner.

At the start of each month, fixed expenses for each RMU, factory, and FIU are paid to the bank. Then a "Business Climate" card is turned. This tells the maximum number of RMU's available that month and the minimum price they will go for. It also lists the maximum potential market for FIU's and the top price the market will stand.

The players secretly bid for the right to purchase RMU's, writing in a price and a quantity. The highest bidder gets taken care of first and then downward until either everyone has been supplied or the RMU's run out. In case of a tie, the senior president (which rotates each month) or the president closest to his left takes precedence. Players decide how many — up to the maximum capacity of their factories — RMU's they will convert to FIU's, playing a manufacturing charge for each unit. Then the players offer their FIU's for sale in a similar manner to the purchasing of RMU's.

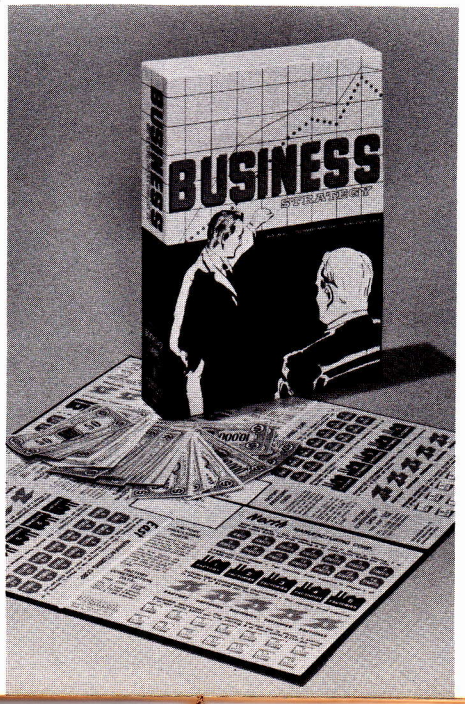
Loans are available to the players, up to one-half the value of their factories. Interest of 1% per month is payable for the remainder of the game but, since in the "Family Game" the principal does not have to be repaid, it is a good deal. To increase their manufacturing capacity, players can order additional factories. Various options are available with different capacities, prices, and lead times before the factories can begin producing.

In the "Basic Business Game" a number of "special situations" printed on the "Business Climate" cards becomes operative. These can grant advantages or disadvantages to a single president or can change the supply or market conditions for all. Another addition is "split bidding" where players can offer to buy RMU's or sell FIU's at two different prices. Players can also decide to shut down an unprofitable factory to cut the fixed expenses in half. But a lead time of two months is required to resume production.

The major change in the "Basic Business Game" is the way in which the game is won. Each president must keep a set of books with a "Profit & Loss Statement" — including depreciation on his factories — and a "Balance Sheet." A set number of years can be played or until a specified time on the clock is reached. The player with the greatest "surplus" on his "Balance Sheet" at the termination is the winner. The players may also choose to play until all except one have gone bankrupt (since players are bidding to buy a limited number of RMU's and to sell FIU's in a limited market and there are always fixed expenses to be met, the specter of bankruptcy is always lurking close behind each president).

The "Corporate Game" adds the concepts of advertising, issuance of stock with the necessity of declaring dividends, and the cruel reality of taxes.

Business Strategy is published by Avalon Hill, 4517 Harford Road, Baltimore, Maryland 21214 and lists for $10.



OUTDOOR SURVIVAL, by James Dunnigan (with some changes by the manufacturer, not all of which were approved by J.D.), pits each player against nature and in varying degrees — depending on the scenario chosen — against each other. The board, with its familiar hexagonal grid, pictures 13,200 square miles of wilderness containing terrain of various types. Each player is represented by one of fifteen "person counters" with descending "life levels." A, the peak "life level, has a movement factor of six, while O, the lowest "life level," has lost all power of movement.

Movement through clear terrain costs one point for eahc hex. Woods or desert cost two points. Mountains or rivers cost three points. And swamps cost four points. Trails through the various hazards can be followed at a cost of only one point per hex (incidentally, there seems to be a small error in the illustration of movement costs). Certain hexes are marked as food sources, and rivers and catch-basins are used for water supplies.

"Lost," the first scenario, is basically solitaire — although up to four can play. Starting at the center of the board the object is to move off any edge before thirst and starvation render you (euphemistically) "not survived." At each turn, depending on the throw of a die, the player is either forced to move in a set direction or has some degree of choice. To satisfy the day's needs for water the counter must end its move on a water source, and similarly for food. If the needs are not met markers are moved on a "Life Level Index Chart," causing a rather rapid fall in "life level" due to thirst and a slower one due to hunger.

"Survival," the second scenario, is a race between two to four players from one edge of the board to the opposite edge. A player has more freedom in his choice of direction, but is still bound by the throw of a die. The day's needs for water or for food are satisfied by passing through as well as by landing on a source hex. And a player can build up his "life level" in water or food or both by remaining on a source hex for three turns.

"Search," the third scenario, depicts a race to locate a lost person. Seven counters — six blank and one representing the missing person — are placed face down in random hexes towards the center of the board. The choice of movement is again freer than in the previous scenario and the needs for water and food more easily met.

"Rescue," the fourth scenario, expands upon the "search" scenario by providing one lost person for each player in addition to the six blank counters. The players race to locate a missing person and then to move him off any edge of the board.

"Pursue," the last scenario, separates the players into escapees and guards. The choice of movement varies, with the guards having the greater freedom. Daily needs for water and food are supplied in the same manner as in the "survival" scenario. The game is won by the first escapee to move off the edge of the board or by the first guard to capture an escapee.

Outdoor Survival is published by Avalon Hill and lists for $10.

In the century following Columbus' discovery, Spanish mercenaries, financed with silver and gold from the New World, developed the most effective infantry formation seen in Europe since the Roman legion. But, even while the "Spanish Square" duplicated the legion's feats in land battle, Spain's grip upon Europe was suddenly wrenched open by the defeat of her Armada in 1588.

By the end of the Thirty Year's War (1618-1648), the Spanish hegemony had been overthrown by France, and nationalism had replaced the religious motives for waging war. For the next half century, the army built by Louis XIV remained, like his palace at Versailles, a widely imitated but unsurpassed showpiece. Soon after the turn of the Eighteenth Century, however, that army

Gustavus Adolphus directs his army as they force a crossing of the River Lech in 1632.

learned to taste defeat when opposed by a coalition forged by the English Duke of Marlborough during the War of the Spanish Succession (1701-1714). A generation later, the military supremacy of France came to an end when her army was outguessed, outflanked, and routed by the soldiers of the Prussian King, Frederick II, at the outset of the Seven Year's War (1756-1763).

Within the span considered the early modern period (1492-1792), permanent national armies were introduced; infantry, cavalry and artillery were standardized and integrated in battle; the impact of firepower was realized; the arts of siege and fortification were advanced to near perfection; and the frequent preference for the indecisive war of position was gradually discarded

(continued on page 28)

The Soldier Kings 1550-1770

by Frank Davis with Ronald Toelke

Diagrams & Illustrations by Ronald Toelke

Musket and Pike: Weapons and Tactics (1525-1630)

At the Battle of Pavia in 1525, during the first war between Charles V and the French King, Francis I, Spanish arquebusiers inflicted a lion's share of the 8,000 enemy casualties, furnishing the first proof of the effectiveness of small-arms fire. As a result, arquebusiers replaced the sword and halberdier men of the Spanish colunelas making them the first strictly "musket and pike" formations in Europe.

In 1534, Charles authorized the creation of the first "tercios," the Spanish counterpart of the Roman legions, which had a major influence on European tactics throughout the following century. The early tercio was a 3,000 man infantry formation. It was composed of three colunelas which deployed in a wedge-like triangular formation when advancing into battle. The tercio was commanded by a "maestro de campo," usually an aristocrat who was appointed to his post by the King for the duration of a particular campaign. The practice of commissioning men who had risen through the ranks as officers, a practice almost exclusively found in Spanish armies in this era, helped develop an unusually high morale among the Spanish troops which was a key ingredient for their battlefield successes.

During this period, personal firearms underwent a series of technical improvements which led to their position as the dominant infantry weapons by the end of the Sixteenth Century. The "harquebus," as the French described the Spaniards' hooked guns, referred to the early musket-like weapons which had been fitted with a curved wooden stock or handle during the early years of the Fifteenth Century. By the middle of that century, the weapon had been improved by the addition of a matchlock firing mechanism which was used to ignite the priming powder in the weapon's flashpan. The "match" of the matchlock gun was simply an S-shaped length of fuse which had to be ignited by hand before the gun was drawn up and aimed. The fuse, known as the "serpentine," was drawn over the hole connecting to the flashpan when the arquebusier pulled back a spring operated trigger. The burning fuse ignited the powder in the flashpan and the gun discharged.

The maximum range of the arquebus was approximately one hundred yards, a range which continued to be the maximum effective range of musket weapons for more than three hundred years. The arquebus, however, was an extremely difficult and seldom reliable weapon to operate. The weapon often weighed as much as twenty-five pounds and could not be fired without the aid of a forked gun-rest which the arquebusier implanted in the ground before loading his gun. This, of course, made him a stationary target, and he was usually spared only due to the difficulties experienced by his opponent struggling with his own arquebus. The process of reloading the arquebus, involving charging the barrel and the flashpan with powder, ramming the bullet and the charge to the back of the barrel with a long wooden stick, igniting the serpentine (occasionally dampened by rain), cocking the matchlock trigger, lifting the gun to its rest and taking aim, left the arquebusier totally dependent upon his pike-bearing companions throughout this workout. This was the reason why a single well-timed charge, even in the opening phase of a battle, could cause an immediate rout, depending on the performance of the opposing pikemen.

By the middle of the Sixteenth Century, the most obvious deficiency of the matchlock weapon, the fact that it proved useless in wet weather, was overcome through the invention of the wheel-lock firing mechanism. The wheel-lock operated in a manner similar to a modern cigarette lighter: a spring-driven wheel rotated against a spark-producing substance igniting the powder in the weapon's flashpan. Now, an arquebusier could get off a shot without having to mooch matches from his buddies. The inherent flaw in the wheel-lock was its high expense, which prohibited its issuance to large numbers of infantrymen.

Thus, the wheel-lock, in a more manageable size, the pistol, found its way into the hands of the less numerous and better paid cavalrymen who, following the example of the German "Schwartzreiters" (Black Riders), turned it against the infantry in the reiter cavalry tactic which became known as the "caracole." The reiter cavalryman, armed with two or three wheel-lock pistols, approached an infantry formation, stopping just beyond the pikeman's reach. After emptying his pistols at the infantry, each front-rank horseman would swing aside to reload while a second rank rode forward to keep the enemy under a withering continuous fire. The dense reiter cavalry columns (ten or twelve ranks deep) would continue to caracole until they were able to break into the disorganized infantry and utilize their full shock advantage. By the turn of the Seventeenth Century the reiter tactic was being used by every cavalry in Europe, thus ending the infantry's reign as king of the battlefield.

The "Spanish Square," or hedgehog formation, devised in the mid-Sixteenth Century, was a sort of mobile fortress created by combining the manpower of two or more tercios. The twenty pike companies of two tercios, each comprising about 150 pikemen, would deploy into a massive phalanx measuring a company in width and twenty or more ranks in depth. Each corner of the square was buttressed by a company of arquebusiers standing ten ranks deep. The remainder of the arquebusiers would be spread along the faces of the pike square in a shallow screen which was covered when the pikes were extended. The square was designed so that each arm could support the other.

The arquebusiers drew confidence and security from the solid pike core which they in turn protected on its vulnerable flanks and corners. When a series of squares were drawn up in a line of battle, arquebusiers would cover the intervals between each formation. As in the caracole, infantry fire was delivered a rank at a time after which the front-rank would retire to the rear while a second-rank kept the fire from being interrupted. By the time an arquebusier was back in the front-rank again, he would be fully reloaded. When firepower had sufficiently disorganized an enemy square the pikemen would advance to complete the mopping-up work. This hedgehog devised by Spanish commanders proved so effective that it was quickly adopted by other armies and continued to enjoy popularity until the mobile Swedish artillery introduced during the Thirty Year's War reduced the massive squares to cannon-fodder.

The chief deficiency of artillery during the Sixteenth Century was its lack of mobility. Although in the preceding century the French had pioneered the development of field artillery through the introduction of horse-drawn gun carriages and gun-elevators called trunnions, gunsmiths had remained preoccupied with developing siege weapons. Sometimes as many as sixty horses were required to move a single of these pop-guns. Furthermore, the lack of standardization of weapons and equipment meant that armies were overburdened with unnecessarily complicated and enormous artillery trains. Although the commander of the artillery train was most often a soldier, the gunners were civilian artists who demanded "prima donna" treatment for themselves and their precious cannon.

As in most other aspects of military science during this era, the Spanish soon assumed the leadership in the development of manageable artillery weapons. In 1544, Charles V standardized the Spanish artillery into weapons of seven types. By the end of the century the majority of European artillery pieces had been divided into four basic categories which included culverins, cannons, pedreros, and mortars. The culverins encompassed a group of weapons ranging from a 200-lb. field piece, the rabinet, used at ranges under 1,000 yards, to the seven thousand pound Royal Culverin, a light siege weapon capable of firing a 40-lb. projectile over a range of some 7,000 yards. The second category, the cannons, had shorter ranges than the culverins but fired heavier ammunition. The Spanish pedreros fired stone projectiles at still shorter ranges, while mortars used the familar high-trajectory fire to bombard the interior positions of fortifications. These artillery pieces, like the contemporary

handguns, were all smooth-bore, muzzle-loading weapons, rather inaccurate and very time consuming to reload. The reloading and reaiming of the heavy siege weapons required such efforts that eight to ten rounds per day per weapon was an admirable feat, while the lighter field guns might produce the same volume of fire in an hour. Some use was made of cannister and grape shot (multiple projectile charges), but solid round shot cut of iron or stone was the principle ammunition of the day.

As mentioned elsewhere, the art of fortification kept abreast of the improvements made in siege weapons and techniques during this entire period. The "trace italienne" fortresses of the 15th and 16th centuries utilized brick, which absorbed cannon fire without crumbling, to replace the stone masonry used in the medieval type fortresses. In addition, bastions (projections from the main walls), fitted with cannon for counterbattery work, were grafted onto the walls of older forts. New fortifications were constructed with lower, thicker walls, less vulnerable to the heavier bombardment they could now be subjected to. Outer earthworks were also constructed beyond the main fortress to protect arquebusiers and light cannon that were used to harrass the besiegers.

Opposing such fortifications, a siege now became a lengthy process of blockade and attrition. The besieging army would have to entirely encircle and dig-in around a fortress and then hope that their supplies outlasted the provisions inside the fortress. Ordinarily, the garrison took to eating rats, leather, and other improvised rations until the campaigning season ended and the besiegers went home. Of course, when they got hungry enough, the garrison surrendered rather than risk having the fort stormed for its plunder, namely the surviving women. One of the most frequent battle situations of this period involved an encounter between a besieging army and an army sent to relieve a besieged garrison. In fact, few Sixteenth Century battles were fought for any reason other than to persuade a commander to lift a siege. While a siege may have been uncomfortable for everyone involved, it was less uncertain than a battle and also relatively bloodless. This made siege the preferred pasttime depsite its inability to affect the long range outcome of the war.

The arrival of siege warfare was paralleled by a tremendous increase in the size of European armies. This grew out of the need to maintain substantial numbers of troops for garrison duties. Also, far more men were needed to hold the long frontages of encircling siege lines than had previously been needed for a face-to-face showdown. Another factor which made larger armies possible was the eclipse of expensive, noble-born cavalry by the pike-bearing, common-born, foot-soldier.

The Dutch Revolt

The start of Spain's downfall coincides exactly with the end of Charles V's reign, for it was in the year of his abdication that the Dutch Protestants of the northern Netherlands first revolted against Spain's Catholic domination. And it was the long struggle against the Dutch bid for independence, the conflict known as the Eighty Year's War (1568-1648), that left Spain the weakened prey that France would mangle in the final episode of the Thirty Year's War.

The underlying cause of Spain's decline is not attributable to any lessening in the effectiveness of her armies, which remained the exemplary models of discipline and cohesiveness long admired by their adversaries. Rather, it was because the Spanish failed to recognize the new importance of naval power and thus relinquished their command of the English Channel and the North Sea to the upstart Dutch and English navies.

In 1567, the English queen, Elizabeth I, went into partnership with the privateers. Led by John Hawkins, they were poaching on the African-West Indies slave trade, a lucrative business which the Spanish crown considered its own monopoly. This point of friction led Elizabeth to allow Dutch vessels to use the English harbors to sortie from against Spanish convoys bound for the Netherlands. This, in turn, caused Spain enormous difficulties concerning her need to send troops to the Netherlands to suppress the Dutch Revolt.

For some time, Spanish armies had been drawing their strength by recruiting large numbers of mercenaries in northern Italy. The troops recruited in Italy, together with Spanish contingents shipped from Barcelona to Genoa, had worn a route of march through the Alpine passes known as the "Valtelline." This route connected Italy with the Hapsburg Tyrol where German troops were recruited to further swell the Spanish ranks. The "Spanish Road" was a similar corridor connecting Italy with the southern Netherlands where Walloon soldiers were also recruited into the Spanish service.

When the Dutch fleets prevented Spain from shipping troops to the war zone by way of the English Channel, the Spanish became totally dependent on the land corridors which approached the Dutch territory solely from the south. This meant that there would be no opportunity to outflank the Dutch along the narrow southern frontier of the rebel territory. Furthermore, the overland routes of march involved a 680 mile trek from Italy, a distance which took the Spanish nearly two months to march and often consumed a large proportion of the uninspired mercenary rank and file.

The Dutch dike builders who had fortified their northern lands against the seas found a similar security against the Spanish by fortifying a line of towns in the south where the terrain altered from flat open country to the more restricted terrain north of this line. In the north, the countryside, which was rivetted with dikes, rivers, marshes, and canals, strongly favored the army which defended it. Thus, the Dutch had simply to maintain the new dike in the south as the legendary boy had held back the sea in the north.

The Army of Flanders sent to suppress the Dutch, although commanded by two of Spain's ablest soldiers, the Duke of Alva, Don Fernando Alvarez de Toledo, and the Duke of Parma, Alessandro Farnese, found itself stalemated, both by the combination of the impregnable fortress barrier and the guerrilla tactics devised by the Dutch commander Count Maurice of Nassau. Maurice constantly outmaneuvered the Spanish by transporting his troops in canal barges. He avoided large battles, choosing instead to wage a series of small skirmishes in which the Dutch troops depended on firepower to offset the greater shock advantage of the large Spanish formations. Thus, he helped develop a novel style of combat which the Americans would borrow from to devise their own brand of Revolutionary warfare two centuries later.

As Spain exhausted herself seeking a total victory against the Dutch Revolt, her real enemy, France, emerged reunited from a series of internal religious struggles and Europe passed into the Seventeenth Century under the shadow of this hungry vulture.

Sixteenth Century Man-of-War

(continued from page 25)

for the advantage obtained by mobile offensive warfare. These developments, among many others, form the legacy imparted by a group of "Soldier Kings" whose foremost rank included Charles V, King of Spain and Holy Roman Emperor; Gustavus Adolphus, King of Sweden and Protestant Champion of the Thirty Year's War; the French Grand Monarch, Louis XIV; and the Prussian philosopher-king, Frederick the Great.

THE RISE OF SPAIN

By the early Sixteenth Century, the two weapons which had driven the mounted medieval knight from the battlefield, the pike and the longbow, were competing against the new gunpowder weapons.

During the Italian Wars (1495-1515) waged by France against Spain and the Empire (Austria), commanders of both forces were attempting to assess the relative effectiveness of the variety of weapons being used. This was not an easy task. The weapons of the day included sword-armed heavy cavalry, experimental types of light cavalry equipped with early firearms, bowmen, pikemen, halberdiers, arquebusiers, and the immobile ancestors of modern field artillery. The results obtained with any one of these weapons often varied from one battle to the next.

For example, in 1503, at the Battle of Cerignola, a charge by the French heavy cavalry, supported by Swiss pikemen and artillery fire, was disastrously repulsed by Spanish arquebusiers entrenched behind solid field fortifications. Nine years later, however, at the Battle of Ravenna, it was the Spanish infantry that was mauled by French cannon which had been miracuously moved to the Spaniards' rear.

The man who seems to have profitted best by his tour in Italy was the Spanish commander, Hernandez Gonzalo de Cordoba. At his suggestion, in 1505, the Spanish royal army incorporated the first coherent infantry formations seen in Europe since the cohorts. Initially, Cordoba supervised the creation of twenty such formations which became known as "colunelas," or columns. The colunelas, each consisting of between 1,000-1,250 men commanded by a "cabo de colunela" (chief of column), were the forerunners of the modern battalion and regimental organizations. One half of the strength of each colunela adopted the eighteen-foot pike made famous by the Swiss in the preceding century. Another third of the formation's strength was armed for close combat with the enemy once they had been fixed in place by the colunela's pikemen. Finally, Cordoba added firepower by equipping one out of every six men with a matchlock hand-gun.

Because the arquebusiers delivered so slow a rate of fire (veterans could manage a round a minute), Cordoba separated them from the pikemen and employed them in entrenchments. In later years, as the Spanish pikemen gained proficiency, the arquebusiers were integrated with them in the line of battle.

If Cordoba's reforms constituted the first step toward the modern army, the warfare of this era advanced only a half-step beyond the combat of the Middle Ages. Armies were kept small, rarely exceeding 20,000 men. Body armor was still worn on the battlefield although more for decoration than protection. Battles still often hinged upon the results of the opening clash of arms. A battle itself was an infrequent occurrence because commanders hesitated to test the reliability of their predominantly mercenary forces. When a battle was joined, it usually developed into either a bloodbath or a rout. Yet a strategic victory was impossible because the victors could rarely catch the vanquished before the latter withdrew into the nearest fortress. Thus, most campaigns ended stalemated, as developments in siege technique and equipment were matched by improvements in fortifications.

A Comparative Tabulation of The Major Military Leaders (1600-1763)

Name	*Nationality or Power Served*	*Strategy*	*Tactics*
1600-1660			
Maurice of Nassau (a, i)	Holland	6	7
Tilly	Bavaria/ Empire	*	3
Wallenstein (a)	Empire	5	4
Gustavus Adolphus (a,i)	Sweden	5	9
Enghien (Conde)	France	*	6
1660-1715			
Louis XIV (a,i)	France	6	*
Turenne	France	7	6
Luxembourg	France	6	7
Villars	France	6	6
Vendome	France	6	5
Villeroi	France	*	3
Boufflers	France	5	5
Tallard	France	*	3
William of Orange (a)	Holland/ England	4	3
Marlborough (a)	England	8	10
Prince Eugene (a)	Empire	8	10
Charles XII	Sweden	3	3
1715-1763			
Saxe (i)	France	7	7
Daun	Austria	5	7
Frederick II (a,i)	Prussia	8	10

Strategy = rates the individual's relative skill as a strategist on a 1 to 10 scale.

Tactics = rates the individual's skill as a tactician.

(a) = denotes a superior military administrator.

(i) = denotes a significant innovator or improver of military art or science.

In all columns an asterisk denotes that there is no basis for evaluation.

In 1519, the burgeoning power of Spain took a great leap forward when the Spanish King, Charles I, was elected Holy Roman Emperor (which he assumed as Charles V) in preference to the French monarch, Francis I. In acquiring the Hapsburg crown, Charles became, far and away, the most powerful ruler in Europe. His rule now extended over the Spanish Kingdoms, Aragon and Castile, the Spanish New World colonies, the majority of Italy, and finally the Hapsburg lands including much of Germany, Flanders, the Netherlands, Artois, Franche-Comte, Austria, and the Tyrol. Unfortunately, such wealth bought also the life-long emnity of France which had been suddenly surrounded by Spanish controlled territory.

The reign of Charles V (1519-1556), like that of the Emperor Napoleon I, was one of ceaseless conflict. Like Napoleon, the Holy Roman Emperor claimed he was the victim rather than the perpetrator of so much strife. The relationship between his ambition to create a new Christian world empire under his rule, and the numerous wars that resulted, was lost on him. During his lifetime he waged six wars against France, struggled against the heathen Ottoman Turks along the eastern fringe of the Empire, and conducted a Mediterranean campaign against the Berber pirates of North Africa. He also led an army against the Protestant Schmalkaldic League in Germany, whom he defeated at the Battle of Mehlberg in 1547 – a battle which proved to be the opening rehearsal for the Thirty Year's War. His reign encompasses Spain's "Golden Age," during which the conquistadores conquered the Aztec and Inca civilizations of Mexico and Peru, while in Europe the Spanish armies grew in size and strength and developed both the organization and the tactics that dominated the Continent for more than a century.

The Spanish found the large numbers of soldiers they needed by recruiting mercenaries from Germany, Italy, Austria, the Netherlands, and, of course, from Spain itself. Fortunately for the Emperor, these troop-producing regions were within his domain, although the mercenaries were under no compulsion to serve the Emperor and often deserted him if someone else was offering better pay or more fringe benefits (more opportunities for pillaging captured towns). Thus, the armies of the Sixteenth and early Seventeenth centuries were cosmopolitan rather than nationalistically homogeneous.

In 1601, for example, in the Spanish-financed Army of Flanders, mustering a total of about 20,000 troops, about a quarter of the total were Spanish, about half were Germans, and the remaining numbers were a mixture of Italians, Englishmen, Scotsmen, Burgundians, and Walloons. Of course, being Spanish in a Spanish army had its benefits, the Spaniards making twice the pay of the Walloons and a good bit above the German recruits as well. Then, there was always an additional advantage by being an officer. In the French service in 1544, a captain earned about $250 per month in peacetime and double that during wartime. A lieutenant's pay was half what a captain earned. A private foot-soldier did the best he could with $25 per month, his wartime rate.

By 1550, however, the good life in the Spanish armies was coming to an end as the Emperor's wars degenerated into a series of ineffectual sieges. In 1556, unable to keep his many

enemies from tampering with the Empire, Charles V abdicated. He divided his lands between his son, Philip II, who inherited Spain and the Netherlands (encompassing most of the modern Netherlands, Belgium, Luxembourg, and the French-speaking Flanders and Artois) , and his brother who was elected the next Holy Roman Emperor, Ferdinand I. Beyond this, Charles V left Europe a legacy which he had revived from its antiquity. The quest for empire was a challenge next picked up a century later by the French King, Louis XIV, who perhaps saw it as the ultimate test of his absolute power.

THE RISE OF FRANCE

In reaction to the barbarity of the Religious Wars, in the second half of the Seventeenth Century warfare came to be conducted according to a strictly regulated body of military conventions based upon the principles of fairness and personal honor. In 1625, a Dutch publication, *On the Law of War and Peace,* authored by Edward Grotius, suggested for the first time that war might be conducted according to an internationally agreed code of morality. The idea for a set of Rules of War eventually attracted many aristocrats who had become appalled with the military license that had prevailed during the Thirty Year's War.

Monarchs, also, were attracted to the concept of limited warfare. The principle supposed that a king ruled through some "divine right" which prevented one monarch from attempting the military overthrow of another king's regime. Thus, on the level of grand strategy, the monarchs of Europe became collectively disposed toward limiting the impact of war. This new preference for a restricted form of warfare reached its zenith during the reign of the French Sun King, Louis XIV (1661-1715), who also raised France to a position of military supremacy over Europe.

In 1600 the French Army had been a backward and ineffectual force of some 15,000 troops. Under Richelieu's supervision the army had been strengthened to a force of nearly 100,000 men at the time of the French intervention in the Thirty Year's War in 1635. Richelieu also completely reorganized the army after the Swedish type, adopting many of Gustavus' tactical and organizational concepts including the basic infantry unit, the battalion, which in the French service consisted of between 600-800 men divided into companies of fifty soldiers apiece.

Upon his accession in 1661, Louis XIV began a series of his own reforms to bring the army more under his own personal control. The administration of the army including the commissioning of officers, recruitment procedures, pay, supply, and training, came under the control of the king's war minister, Francois Louvois. Louvois supervised the massive "Bureaux de Guerre" or War Department. In 1663, Louvois created a new model regiment (the Regiment du Roi) which came under the command of Colonel Martinet whose name became an English synonym for the strict disciplinarian breed of officer. In 1677, Louvois reformed the French artillery to exclude the civilian escorts and laborers which continued to be employed by the English and other armies well into the Eighteenth Century. In 1688, Louvois established a national militia by requiring that each church parish raise, arm, equip, and clothe one militiaman who would do garrison duty or be used in the event of civil unrest within his locale. This militia was a

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The Thirty Years War

The divisive effect of the Reformation was particularly disastrous within the empire founded by Charlemagne which in the Fifteenth Century had adopted the title, "The Holy Roman Empire of the German Nation." In the Seventeenth Century, no less than when the title was adopted, the phrase remained rather misleading. The Empire was, in fact, a complex constitutionally governed conglomerate consisting of the ancestral Hapsburg lands (principally Austria and Bohemia), a number of "free cities" (each of which was a sort of incorporated village, independent of neighboring landowners but frequently dependent on the Emperor for protection), a scattering of abbeys, bishoprics, and other ecclesiastic properties belonging to the Catholic Church, and finally the estates of several thousand independent German feudal princes, whose lands were continuously sub-divided in the absence of a primogeniture principle of succession.

The Holy Roman Emperor himself was an emperor in name only. In reality, he was an authority elected for life by an electoral college comprised of the seven most prestigious princes in the Empire, known as the Electors. Although an uninterrupted succession of Hapsburgs had worn the imperial crown since the end of the Fifteenth Century, the princes of the Empire had resisted the Hapsburgs' attempts to make the imperial title a hereditary rather than an elected one as they had similarly opposed any further centralization of power into the Emperor's hands. Thus at the turn of the Seventeenth Century the twenty-one million inhabitants of the Empire were still governed by more than 2,000 separate authorities.

An example of the inefficiency of the imperial system was the resolution drawn up at Augsburg in 1555 which attempted to settle the religious turmoil within the Empire. The Diet at Augsburg adopted the principle known as "cujus regio ejus religio," by which each prince obtained the authority to enforce his religion upon whomever dwelled upon his lands. Those who refused to conform to the prince's faith were forced to emigrate. Unfortunately, the Diet granted this authority only to the Catholic and Lutheran princes. Those of the newer Calvinist faith were entirely overlooked. Needless to say, religious friction not only continued, it grew worse. Following the Peace of Augsburg, clergymen, whatever their faith, could not travel abroad in Germany without an armed escort.

In 1618, almost exactly a century after the birthdate of the Reformation, a crisis occurred in Bohemia which precipitated one of history's greatest conflicts. At that time the Emperor was the Hapsburg King of Bohemia, Matthias I, who unwisely advanced his nephew Ferdinand of Styria as his choice to succeed himself on both the Bohemian and imperial thrones. Ferdinand, a fanatical Catholic, was rejected by the Protestant Bohemian nobility. In May of 1618, in a gesture aimed at persuading Matthias to reconsider his choice, a group of noblemen broke into the King's residence in Prague and hurled three of Matthias' favorite councilors through a second-story palace window, an event to become known as the Defenestration of Prague. With his kingdom breaking out into a full-fledged revolt, Matthias wisely escaped his predicament by dying in March of 1619. Ferdinand was left an unpopular but legitimate heir to the Bohemian crown.

In August of 1619 the Electoral College met at Frankfort to elect a new Emperor. The group consisted of three Catholic Electors, one Lutheran, and two Calvinists. The deciding vote lay in the hands of the King of Bohemia who was none other than Ferdinand himself — still a Catholic. Ferdinand swept the election to become the Holy Roman Emperor Ferdinand II. As it turned out, however, Ferdinand had one remaining problem. Two days prior to his election to the imperial throne he had been deposed in Bohemia. In his place the Bohemians had chosen the Calvinist Elector of the Palatinate, Frederick V, for their King. The Thirty Year's War had begun.

The Bohemian Period (1618-25) encompasses the suppression of the Bohemian insurrection which the Emperor accomplished with an army lent to him by the Duke of Bavaria. In exchange for the use of his army, Maximilian, the Duke of Bavaria, was promised the Palatinate, currently owned by the Elector who had usurped Ferdinand's Bohemian crown. In July of 1620, Maximilian and his Walloon general, Johann Tilly, marched on Prague at the head of the 25,000 troops of the army of the Catholic League. Meanwhile, in concert with the Emperor's plans, an army commanded by the Spanish captain Ambrogio di Spinola left the Netherlands to occupy the Palatinate, which lay astride the route used by the Spanish to march against the Dutch Revolt in the Netherlands.

In Bohemia the Palatine Elector Frederick V (the elected King of the Bohemian revolt) lost the service of his mercenary captain Ernst von Mansfeld when the Bohemian treasury dried up in October 1620. The Bohemian army withdrew on Prague with Tilly's Catholic army in close pursuit. Late in the evening on 7 November 1620, the Catholic sentries spied the Bohemian positions on the White Mountain near Prague. On the following morning Tilly attacked and routed the ill-trained rebels led by the Protestant Prince Christian of Anhalt. The rebel King fled north into Silesia, while behind him Prague was sacked by Tilly's troops and Bohemia was made the first regional victim of the war. Proven rebels were executed by the hundreds in the great square in Prague. Virtually all the Protestant-owned land in Bohemia was seized in the Emperor's name. According to the local records, the population of the devastated kingdom dropped from four to one million in less than five years.

In January of 1621 the Palatine Elector was banned from the Empire, and within two years the Duke of Bavaria was rewarded with the Palatine Electorate. Althoug infuriated by the Emperor's unconstitu tional actions (seizing the Bohemian land and transferring the Electorate to Maxi milian), the majority of the Germa Protestant princes were too intimidated t take military action against the Emperor

During the following *Danish Period* (1625 29) of the war, the Emperor's principa opponent was the Protestant King o Denmark, Christian IV, who also held prince's title in the Empire. The Danish Kin raised two armies with the subsidies h wooed from the Dutch and Englis Protestant governments. He employe Mansfield to command one of thes armies, retaining the second under his ow command.

Meanwhile, though continuing to us Maximilian's general, the Emperor found second commander, Albrecht von Wallen stein. By the time he appeared in Vienna Wallenstein had already amassed a consid erable fortune through a succession o gainful marriages compounded by the confiscation of vast lands in Bohemia. I 1623 he put his fortune to use recruiting mercenaries into the imperial service. He soon proved so valuable that the Emperor rewarded him with the title of Count o Friedland. An astute businessman, Wallen stein next opened his own textile factory and began supplying the Emperor's troops with the first modern military uniforms. I 1625 he took command of an imperial army to prove himself in the field.

Early in the following season, Wallenstein met and defeated Mansfeld's army a Dessau Bridge (25 April 1626) on the Elbe River in Saxony. A few months later Tilly defeated the second Protestant army led by the Danish King at the Battle of Lutter (25 August 1626). Following these two victories, Tilly and Wallenstein overran northern Germany, employing the methods developed in Bohemia to deal with the Protestants in the north. The Imperialist armies fattened themselves by devastating one region after another leaving the peasants no alternative but to join their ranks. The men were recruited at the going rate for private foot soldiers, the equivalent of about three dollars a month. This was quite an attractive sum to a peasant who as a civilian had known only starvation. The women became permanent camp followers; whoring apparently becoming an attractive alternative to life outside the protection of at least a partially disciplined army. The typical army of 40,000 soldiers often provided the only means of existence for a camp-following of three times that number. This was the high tide of the Imperial victory.

In 1628, however, the Imperialists' reach finally exceeded their grasp when Wallenstein laid siege to the Baltic port of Stralsund. Three days prior to the investment by the imperial troops, the municipality had concluded a treaty with the Swedish monarch, Gustavus Adolphus, who had pledged to protect the port in exchange for its use as a base for Swedish operations on the Continent.

The Swedish Period (1630-35) began in July of 1630 when twenty-eight Swedish warships debarked an army 13,000 strong at the mouth of the Oder River on the Pomeranian coast. When Gustavus arrived in Germany, he expected to be welcomed as the Protestant's savior. Instead, the German Protestant princes took him for a foreign interventionist and refused to either ally with him or to support his march any deeper into the Empire. Thus the Swedes remained bottlenecked in Pomerania throughout the winter of 1630-31.

In the spring which followed, Tilly's lieutenant, Gottfried Pappenheim, laid siege to the great Saxon city of Magdeburg on the Elbe. For two months Magdeburg resisted while she awaited relief from the Swedish force to the north. Despite the danger, the Protestant Brandenburg Elector, John George, refused to allow Gustavus to cross Brandenburg to march to Magdeburg's relief. On 20 May 1630, Magdeburg's defenses were breached and the Imperialists began a dreadful sacking of the city. Magdeburg was burned to the ground and 25,000 of the city's population of 30,000 were slaughtered.

Following Magdeburg's tragedy, John George signed an alliance with Gustavus in September of 1631. One week later the Swedish-Saxon army commanded by Gustavus and the Elector joined battle with Tilly's army near the village of Breitenfeld, a short distance from Leipzig. The first test between the Swedish and Imperial forces lasted only three hours. Tilly, who began the battle with nearly 40,000 men, left 7,000 dead on the field. A further 6,000 of his troops were wounded and twenty-six of the Imperialists' cannon and ninety of the Emperor's flags were captured. Gustavus sacrificed less than 3,000 men to win the first major Protestant victory of the thirteen year-old war. The Battle of Breitenfeld (17 September 1631) earned Gustavus (already known as the "Lion of the North") a new reputation as the liberator of Protestant Europe.

Following Breitenfeld, Protestant Germany united under the banner of the King of Sweden. By Christmas of 1631, Gustavus had seven armies totalling 80,000 men within the Empire. Of these large numbers, however, only 20,000 were his own Swedish troops. The remainder were an inferior strain of recruits led by the various German princes.

In the spring of 1632 Gustavus marched south to bring the war closer to the Austrian heart of the Empire. In April, Gustavus and Tilly clashed a second time when the Swedes attempted a forced crossing of the River Lech in Bavaria. The Imperialists were defeated on the riverbank where Tilly received a fatal wound. Following his passage of the Lech, Gustavus was three weeks' march from Vienna. In fear for his capital, the Emperor appealed to Wallenstein to divert the approaching Protestant menace. Wallenstein marched northward into Saxony forcing Gustavus to withdraw to cover his line of communications anchored on the Baltic.

On 16 November 1632, Wallenstein and Gustavus joined battle at Lutzen, only twenty miles from the scene of the Protestant victory at Breitenfeld. Together, Wallenstein and Pappenheim deployed their 25,000 troops and sixty cannon in the normal Imperialist pattern. Their center consisted of four great infantry squares which were supported on either flank by dense *reiter* cavalry columns. Opposing them, Gustavus divided his 18,000 troops into eight infantry brigades among which he integrated the Swedish and Saxon cavalry, with twenty-six heavy and forty regimental artillery pieces. From early morning when the battle commenced, the grey November day was darkened with the heavy smoke of the infantry and artillery weapons. The course of the battle is a mystery. Sometime in the afternoon Pappenheim, while leading an imperial cavalry charge, received a bullet in his lung which sent him, choking blood, to die in his coach on the road to Leipzig. At dusk, Wallenstein surrendered the field to the Protestants, his army having suffered about 12,000 casualties. In the rain later that night the Swedes found their king's body laying naked under a heap of muddied corpses. Shot between the ear and his right eye, the life of the warrior-king had come to an end long before the current war would find its own conclusion.

In 1634 Wallenstein, while contemplating a defection to the Emperor's enemies, was murdered in his bed by a group of his officers who possessed a stronger sense of loyalty. The war, however, continued to outlast the generation that had begun it.

The concluding *French Period* (1635-48) of the Thirty Year's War encompasses the period in which the war ceased being primarily a religious conflict, to become instead a modern political one. France had been intermittently at war with Spain since Louis XIII's minister, Richelieu, became the power behind the French throne in 1624. It was Richelieu who viewed the encircling Hapsburg powers of Spain and the Empire as France's foremost enemies.

Following the Protestant defeat at Nordlingen (6 September 1634), the Spanish (being somewhat relieved of their duty to defend the Empire) had invaded eastern France reaching to within one hundred miles of Paris during 1636. Meanwhile, under Richelieu's supervision, the French armies were being reorganized after the Swedish model. Shortly before his death in 1642, Richelieu had singled out the 23 year-old Duke Louis d'Enghein to take command of the French forces holding the Spaniards to the east of Paris.

On 18 May 1643, Enghien, with 23,000 French troops, attacked a 27,000-man Spanish army commanded by the experienced Spanish general Don Francisco de Melo at Rocroi, near the Netherlands-France border. After driving off the Spanish cavalry, the French were left facing 18,000 veteran Spanish infantry. Unsupported, the Spanish were encircled by the French horse and foot, but three French attacks were repulsed with heavy losses to the assailants. Finally, a chance shot killed the Spanish infantry commander after which his lieutenants signalled for a truce. When Enghien rode foreward to parley with the Spanish officers, the Spanish musketeers, believing another French attack had begun, fired on the French commander. Without an order being given, the French soldiers surged forward to protect their leader. The Spanish were cut down where they stood. Of the 18,000 Spanish, 8,000 were killed and 7,000 were taken prisoner. Rocroi marked the end of Spain's 150 year reign as Europe's foremost military power.

Five weeks after Rocroi, the new Emperor Ferdinand III requested negotiations with France and Sweden. But for five more years the war continued its destructive course. In December of 1644, the ambassadors of France, Sweden, Spain, the Netherlands, the Emperor, and the German Protestant princes, convened the first peace conferences in Westphalia. For more than a year the ambassadors haggled over the cause of the war while the hostilities continued. Finally, four years after the conference was convened, two treaties were signed which together formed the Peace of Westphalia. The Peace granted amnesty to the German princes whose sovereign rights were recognized by the Emperor. Calvinism was also recognized and Protestant and Catholic states were given complete equality within the Empire. The Dutch United Provinces were declared a sovereign state. Sweden received indemnities and her Baltic territories were guaranteed. Territorially, the Peace favored France but left her unsatisfied enough to continue her war with Spain until 1659.

In thirty years approximately 350,000 men had died on the battlefields. The toll in human life within the Empire has long been a subject of legend. During the Nineteenth Century it was believed that the population of the Empire had been reduced by three quarters, from 21 million to about 5 million between 1618-1648. These figures were derived from contemporary accounts which reported staggering regional losses: Bavaria claimed to have lost 80,000 families and nine-hundred villages. Bohemia recorded the disappearance of five-sixths of her villages and three-quarters of her population. Therein lies the catch. Civilians migrated at a frantic pace to avoid approaching armies. The astounding losses claimed in certain frequently contested regions are matched by population increases in other non-combat zones. In the present century it became possible to measure the war's effects simply by reporting that it was the most devasting conflict history had witnessed prior to World War II.

But perhaps the best measure of the horror and cost of the Thirty Year's War can be seen in the actions of the generations born soon after the conflict. For a century and a half following the Peace of Westphalia, war was conducted with a degree of civility and restraint which is unmatched in the entire length of the rest of history.

necessary backstop for the regular army which was often having its share of recruitment problems.

By the end of the Thirty Year's War the soldier's profession was so thoroughly discredited that the "voluntary" French recruitment program depended to a large degree on the impressment of condemned criminals who could choose to enlist rather than serve a jail sentence. To these were added a great number of peasant recruits and Swiss, Scottish, and Irish foreign contingents. Despite the recruitment difficulties, the French managed to field ever larger numbers of troops. From a population of under 20 million, 280,000 troops were serving France in 1678 and more than 400,000 by 1690. Most of these men served in standing year-round formations and many had long-term enlistment contracts. The cost of maintaining this huge army was enormous. In general, troops were recruited by a nobleman who purchased a commission from the king which allowed him to raise and command a regiment. The commander received a bounty from the king for each recruit he mustered including an allotment for each man's weapons, equipment, and subsistence. There was a high degree of corruption in this system by unscrupulous commanders who either made a profit at their troops' expense by short-rationing them, or at the king's expense by submitting fraudulent muster lists. The French middle-class bore the brunt of the army's cost as their taxes continued spiralling throughout the Sun King's reign. In any event, the exorbitant cost of such large armies as those maintained by Louis XIV contributed a great impetus to limit the number of casualties which might be suffered during a war. Therefore, the trend toward the limited form of war known as the "war of position" continued.

Unlike his grandfather, Henry of Navarre, Louis XIV was not a born soldier. Although he personally commanded a field army on occasion, the king never led a charge nor was he ever wounded in battle. Yet, he was fascinated with the military and insisted on personally supervising the vast range of military operations which his foreign policy necessitated. At his palace at Versailles, which became the national headquarters during his reign, the king's personal guard numbered nearly 12,000 men. Louis kept in close communication with his War Minister and maintained a correspondence with each of his field commanders. The War Minister acted as the king's chief-of-staff, translating the king's orders into "cahiers" of instructions in which Louis outlined the role of each of his commanders during each campaign. In general, no major action contemplated by a commander could be undertaken without the king's approval. The effect of such close scrutiny greatly inhibited the initiative of the French marshals. Many opportunities in which a battle could have been fought in an advantageous situation were forfeited while the general in the field awaited a reply from the commander-in-chief. And the king, with little experience to guide him, frequently showed poor judgement when he let such situations slip away.

If the king was a timid commander-in-chief when it came to giving battle, he was the opposite in his obsession with the less risky affairs of siege and maneuver. In the same way in which Adolf Hitler was attracted to the gadgetry of warfare, Louis was attracted to the machinery and procedures involved in the arts of siege and fortification. Given the quality of the harshly recruited armies, the expense of maintaining them, the logistical problems involved in mobile campaigning, and the political and moral considerations that war had become subject to, it is easy to understand Louis' preference for the "war of position." This type of warfare involved the occupation of a particular area or important town, rather than a sweeping drive against an enemy capital.

During his sixty-six year reign, Louis XIV fought almost continuously for the aggrandizement of France at the expense of the weakened Hapsburg regimes of Spain and the Empire. Following the death of the Spanish king, Philip IV, in 1665, Louis sent his most gifted general, Henri de Turenne, to seize the Spanish Netherlands on France's northeastern frontier. Meanwhile, the Prince of Conde (now reconciled with the king) invaded Franche-Comte, a second Spanish possession separating France from the Rhine. These aggressions led England, Sweden, and the United Provinces into a coalition (The Triple Alliance) which forced Louis to temporarily abandon his expansionist policies through the Treat of Aix-la-Chapelle signed in 1688.

Four years later, Louis, personally in command of 130,000 troops, invaded Holland, touching off the Dutch War (1672-1678). The war began when Louis and Vauban laid siege to the Dutch city of Maastricht on the Meuse River, then one of the most strongly fortified cities in Europe. Using 40,000 French troops against the city's garrison of 5,000, Vauban took the fortress in a miraculously short span of just eleven days. Adding an interesting footnote, the French soldier, D'Artagnan, immortalized by Alexander Dumas', *The Three Musketeers,* perished in the French attempt to storm Maastricht on 25 June 1673.

The war continued its dramatic course. Louis divided his forces among three of the most outstanding marshals ever to serve France, Conde, Turenne, and the Duke of Luxembourg, all of whom were masters in positional warfare. Their opposition was led by the Dutch *stadtholder,* William of Orange (later William III of England) who had devised the tactic of cutting open the Dutch sea dikes to halt the French advance in the early part of the war. In 1674, Conde risked a battle against William, who was preparing to invade France with 65,000 men. The Battle of Senef (11 August 1674) ended in a tactical draw, but William's casualties were too great to proceed with his planned invasion.

As the war progressed, Louis broadened his operations in the Rhineland, reaping the emnity of a number of German princes who joined the coalition opposing France. In 1674, Turenne, operating on the Rhine in the vicinity of Strasbourg, won a series of victories against the Germans during the summer, after which the Germans settled into a fortified winter-quarters at Strasbourg. In a rare winter maneuver, Turenne rounded the Vosges Mountains to surprise and defeat the Germans at the Battle of Turckheim (5 January 1675). Although the battle was inconclusive, Turenne's unseasonal campaign was an act of such audacity as to earn for him a reputation which Napoleon would support more than a century later, when he called Turenne the greatest soldier France had ever produced.

The Army of Gustavus Adolphus

Germany had never seen such an army as the one commanded by the Swedish king. Unlike the rest of Europe which had adopted the Spanish mercenary arms system, Sweden had developed a system of mandatory military obligation in which one out of every ten men in each Swedish church parish was enrolled into the national army. This system provided for the maintenance of a permanent campaign army numbering 20,000 highly trained troops. Sweden devoted seventy percent of her annual budget to finance this standing national force, which could be increased in time of war. In addition, before leading his army into Germany, Gustavus secured the promise of considerable French subsidies to pay the Swedish soldiers that would make war against France's Hapsburg enemies.

But the quality of the Swedish army was superior to that of the imperial troops not simply because the Swedish king took care to see that his soldiers were regularly and properly paid. Far more important was the combination of both a religious and nationalistic sense of purpose which Gustavus instilled among his troops. The Swedish army came to Germany not only to defend the Protestant cause, but also to defend the Baltic territories (Estonia and Livonia) which Sweden had recently acquired following her victorious campaigns against Russia and Poland (1604-17). With his war-cry "God with us," Gustavus led his unique army into Germany to defend his two-fold cause.

In addition to his flamboyant flair for leadership, Gustavus was also both the finest pupil and teacher of military science of his era. Born into an age of military conservatism, Gustavus singlehandedly changed the nature of the Seventeenth Century warfare through the improvements he instituted in existing weapons and the innovative tactics he developed to use this new weaponry to its full advantage. Through his French military instructor, Gustavus had learned of the skirmish tactics being used by the Dutch commander Maurice of Nassau, as he had also been familiarized of the French cavalry's return to the shock tactics of the pre-reiter days. Armed with this information, Gustavus had experimented continuously during his wars against Russia and Poland to develop better weapons and tactics. By the time his army landed in Germany, it was organized and equipped far differently from the imperial armies which still adhered to the Spanish methods developed in the previous century.

The new equipment carried by the Swedish allowed Gustavus to develop the tactics that would soon shatter the massive Spanish-style squares used by the Imperialists. The Swedish infantry were equipped with a standardized wheel-lock musket which had been lightened from twenty-five to eleven pounds so that it could be aimed without the forked support still used by

their opponents. The infantry were also issued the first cartridges which combined a pre-measured amount of powder with a single musket-ball which were wrapped together in a "fixed" paper cartridge which the soldier carried in a cartridge-pouch. Using these cartridges the Swedish musketeers were able to reload their weapons far more rapidly and deliver a far greater rate of fire than their opponents who had to measure the powder charge needed for each firing. This increased rate of fire allowed Gustavus to deploy his infantry in longer and shallower formations which could often envelop an Imperialist square.

More than any of his contemporaries, Gustavus emphasized firepower as the primary infantry weapon. The Swedish infantry fought in six ranks rather than the ten ranks used by their opponents. Because of their more rapid rate of fire, three Swedish ranks would fire simultaneously — the first rank kneeling, the second stooping, and the third standing. After firing, the three ranks would counter-march to the rear to reload while the second three ranks loosed another volley.

The Swedish infantry company was organized to reflect Gustavus' emphasis of firepower. The 150-man company consisted of 72 musketeers and 54 pikemen. Four of these companies composed a battalion, two battalions a regiment, and two to four regiments a brigade. Although approxmately the same size as the Spanish tercio, the Swedish brigade was employed in battle with a far greater degree of flexibility. Gustavus deployed it in line, in square, and often three regiments would be formed into a wedge or triangular formation. The slightly advanced center regiment would fix an Imperialist square in place while the other two regiments moved to either flank of the square which was then subjected to murderous cross-fire.

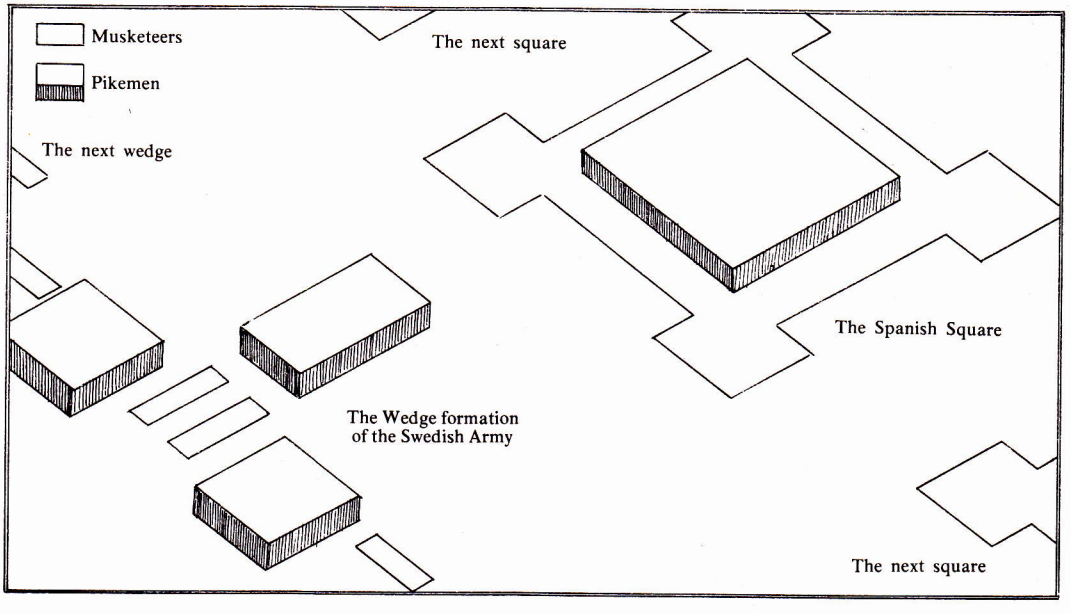
The Swedish cavalry, organized in one-hundred trooper squadrons, were often integrated into the first line of battle rather than being stationed exclusively on the flanks or to the rear as was the accepted practice. The Swedish cuirassiers (sword-armed cavalrymen protected with armor breatplates) were employed in a shock role. Arranged three ranks deep, they used a fast-moving saber charge to disorganize the Imperialist reiter cavalry whose effectiveness depended on their rigid fire tactics. In the melee following the saber-charge, the Swedish horsemen drew out their pistols to decimate the now unloaded enemy cavalry. Covering such a cavalry charge, unattached Swedish musketeer companies would scour the enemy with small-arms fire to blind him to the onrushing wave of cold steel. This infantry-cavalry teamwork, which proved so successful at Breitenfeld and Lutzen, depended heavily on the intensive combined-arms training which Gustavus subjected his army to during peacetime. Such extensive training was impossible for the seasonally recruited imperialist armies.

The Swedish artillery was standardized into four calibers ranging from 24-lb. siege-guns through the 12 and 6-lb. field artillery pieces, to the highly innovative 3-lb. regimental guns. These regimental weapons which accompanied the advancing infantry were exceptionally mobile pieces which could be drawn by a single horse or by three men. This represented quite a contrast to the standard 33-lb. cannon used by the enemy which was brought onto the field by twenty-five horses and remained in position throughout a day-long battle. Gustavus also standardized and "fixed" the artillery's ammunition so that a light gun could fire eight rounds in the time a musket could produce six. This represented a tremendous increase in the volume of fire which artillery could deliver and this increase was further enhanced by Gustavus' practice of massing batteries to obliterate the enemy infantry squares. In addition, the Swedish gunners were expertly trained professionals, far superior to the contracted civilian gunners still employed by the Imperialists. Finally, the artillery was trained to cooperate and support the infantry and cavalry. It was this combination of training, integration, leadership, and sense of purpose that made Gustavus' army the most effective combined-arms force of its day. In just two battles, this army would reverse the course of the Thirty Year's War.

It also deserves mentioning that, in one further respect, the Swedish army differed from those of the Emperor. This lay in the rigid discipline which Gustavus enforced. His standing orders forbade attacks on hospitals, churches and schools, and the civilians connected with these services. One quarter of the breaches of Gustavus' regulations were punishable by death. In contrast, during the twelve year tide of the Imperialist victory, much of Germany had been devastated by the Imperial armies. The armies of Tilly and Wallenstein had never risen above the level of an armed mob, exacting a blood tribute from each conquered city during their march across Germany. But before condemning the Imperial commanders, it must also be mentioned that their armies were typical of their day and were no harsher than any troops the war had yet produced. Frequently, the Emperor's mercenaries marched for years without receiving the pay they were due. When at last a city was taken, no commander was so foolish as to try to deprive his troops of whatever booty they might capture. This was part and parcel of the mercenary's contract. War without plunder, pillage, looting, and rape was unknown.

The Swedish Battle Formation vs. The Spanish-Imperial System c. 1632

Notes: The Swedish victories at Breitenfeld and Lutzen were largely due to Gustavus' practice of employing a three battalion brigade arranged in a triangular formation. The Swedish units outmaneuvered the massive Spanish Square used by the Imperialists. The center Swedish battalion would pin the square in place while the two flank Swedish battalions operated against the flanks of the square supported by the six ranked Swedish musketeer companies. In general, the smaller Swedish formations were more mobile while they represented very poor artillery targets in contrast to the large solid squares of their opponents.



The War of Position

Geographically, France was most vulnerable to invasion along a fairly limited stretch on her northwestern frontier. Given the recruitment problems and the cost of maintaining large standing armies, it was expeditious for France to fortify this vulnerable zone which might then be defended by inexpensive garrison or militia troops who required far less training than those troops which served in the French field armies.

It was Louis XIV's good fortune to receive into his service one of history's greatest military engineers, Sebastien le Prestre, Seigneur de Vauban. Beginning in 1667, when his design for the new citadel at Lille was approved by the king, Vauban, entitled as the Commissioner General of Fortifications, supervised the construction of more than 90 new fortresses to help guard the perimeters of the French nation. The intricate star-shaped fortifications which Vauban emplaced around the cities and towns which covered the main road and river access route into France, allowed the national defense to rest on only 20,000 garrison troops. This allowed the king to field unprecedented numbers of troops for offensive operations. Louis XIV became the first king to serve as the commander-in-chief of multiple field armies.

It is also worth mentioning that Vauban not only reigned as Europe's master builder of forts, but that he simultaneously served as the greatest siege-master of his day. Having set the standard in the art of fortification design, Vauban went on to formulate the "parallel" system of siegecraft by which a properly supplied army could overcome even the greatest of the fortifications he had designed. Using his own system, Vauban personally conducted more than 50 successful sieges, proving the warning he had given to the king in which he had stated that no fortress was impregnable against a determined well-supplied force. Vauban's immense talents were recognized in the contemporary two-part adage which ran: "A town defended by Vauban is a town held," and "A town invested by Vauban is a town taken." It was not long before Vauban-style fortresses were duplicated to defend a majority of strategic points from Vienna to the passes of the Pyrenees.

These new fortifications were the cornerstones upon which the "war of position" rested. Although capable of being overcome by a protracted siege, the Seventeenth Century fortress imposed a significant obstacle to the armies of the period. Because of the new military morality, the concept of "living off the land" was gradually being abandoned. Replacing it, the armies of the latter portion of the century strove to operate as self-contained units, carrying their vast supply and munition requirements in burdensome baggage trains. This alone crimped an army's ability to give battle as a field army could rarely transport enough munitions for more than a single engagement. In this period an army moved together as a single mass which often numbered 50,000 or more troops. Such an army transported so much baggage that it was forced to march along the major thoroughfares where fortresses were most thickly emplaced. Thus, it was necessary for an army to further encumber itself with a train of siege artillery. These guns had not been significantly lightened. The average Seventeenth Century siege piece still weighed in at between one and two tons, although their rate of fire had been improved with the introduction of "fixed" ammunition.

A battery of ten 24-lb. guns could fire close to a thousand rounds per day during a siege, but such a battery required some six tons of powder and twelve tons of shot for each day's operations. An army thus encumbered could rarely force a battle against an unwilling opponent.

The prospect for an engagement were not particularly promising even when opposing armies were "travelling light." On the march, an army proceeded in two long columns between which rode the baggage and artillery. Each of these march columns was arranged to directly correspond to a line of battle. On the road, however, a march column could seldom be more than six files in width. It was therefore necessary to leave an interval between each company and each battalion which was equal to the frontage of that unit when it was fully deployed for battle. At a battle site, each column advanced across the field leaving the correct interval between each unit. Finally, all of the individual units would perform a simultaneous right quarter-wheel which extended the entire column into a shallow continuous line. If, however, the deployment was to be made to the left, each unit had to pass behind the unit that had led it on the march in order to preserve the correct sequence on the line of battle.

All of this was impressive on parade grounds, but on the battlefield during the several hours required to deploy an army into battle formation, an enemy commander could easily effect an escape. It was therefore impossible to force a battle unless an enemy could be surprised in his encampment at dawn following a night approach march. This was a rare occurrence. It happened far more often that a battle would commence in the late afternoon after each commander, having seen the enemy's deployment, decided to risk an engagement because of some weakness he had detected in the enemy force, some advantage in his own position, or simply, but infrequently, merely to save face.

In positional warfare, an army would invest a particular fortress or city currently held by the enemy. A second army would position itself so as to threaten the line of communications of the besieged town or fort. This second army would also cover the siege, that is, it would be responsible to defend the besieging army against any enemy force that came forward to relieve the besieged garrison. This could often be accomplished without resort to a battle. As all armies carried about four days rations, any army outside of a fort (in which provisions were stockpiled) needed to maintain a line of communications with the nearest friendly-held fort or town in order to resupply itself. This line of communications allowed an army to draw upon a fort's supply stockpiles which were transported by wagon-convoy to the position of the needy army in the field. Thus, a threat against an army's line of communications usually precipitated that army's retreat.

An army timidly commanded could often be persuaded to withdraw simply by a feint against its line of communications. On the other hand, an army which was boldly led, or an army possessing a numerical advantage over its foe, could reverse the situation by advancing on the enemy either to give battle or to threaten his own lines of communication. The entire process was not unlike a game of poker in that a good commander in possession of a weak force could often bluff his opponent into dropping out of the game. But there was a considerable degree of skill involved in this form of waging war. The time it would take to persuade a besieged fortress to capitulate could often be calculated according to the strength of the defenses and the quality of the siege equipment. Both the commander of the garrison and the siege commander knew approximately how long a fortress could hold out, usually between 40-60 days. Thus, the feints and maneuvers of the attackers were executed to purchase time in which the siege could be completed, while the defenders maneuvered to disrupt and delay the siege in the hope that the season would peter out before the defenses of the fort gave way. Occasionally, a whole campaigning season from April to November would be consumed in this parrying with neither army gaining or losing any territory whatsoever. Yet this chess-like maneuvering held a great appeal to the aristocratic officers whose cultures were slowly giving birth to the era known as the "Age of Reason."

When a siege was about to succeed, the garrison commander could appeal to his opponents for the terms upon which the fortress could be surrendered. Here, too, bloodshed was avoided and reason prevailed. Often the entire garrison would be allowed to evacuate the fortress without harm on condition that their arms be surrendered, although the troops themselves would be free to join in the defense of another fortress, often in the same campaign season. When prisoners were taken, arrangements were made to exchange them at regular intervals. Captured officers swore an oath to refrain from action for a fixed period of time in exchange for their release. It also became possible to ransom back a particularly valuable officer who had been made a prisoner of war. These practices underscore the new civility which was being assimilated into the warfare of this era. This also illustrates the increasing value of the private foot soldier to his employer. But if these courtesies lessened the cost of waging war, they simultaneously increased the appetite for provoking hostilities.

Later that same year Turenne was killed during the enemy artillery bombardment preceding the Battle of Sasbach (27 July 1675). The Treaty of Nimwegen finally ended the war in 1679 when France was rewarded with France-Comte and twelve important towns in Flanders, in the northern provinces of the Spanish Netherlands.

In 1688, Louis went to war again, this time against a powerful coalition consisting of Holland, England, Sweden, Spain, Savoy, Austria, and the Empire. The War of the League of Augsburg (1688-1697), named after the coalition opposed to France, was essentially a repeat performance of the Dutch War. The fighting focused on four principal areas: the Palatinate of the Empire, the Duchy of Savoy, linking southern and northern Italy, the Pyrenees Spanish province of Catalonia, and the "Cockpit of Europe" (northeastern France, the Spanish Netherlands, and the southern United Provinces). In addition to Louis and Vauban, who continued their impressive siege work, and William III of England and Luxembourg of France [who clashed in battle at Steinkirk (3 August 1692) and Neerwinden (29 July 1693), both of which were French victories], the war uncovered a group of leaders who would soon make their own mark on history during Louis XIV's last bid to turn Europe into a spattering of French satellites. The leaders referred to include the French generals, Boufflers, Marsin, Tallard, Vendome, Villars, and Villeroi, and the generals that opposed them in the coming War of the Spanish Succession, the prince of the Empire, Eugene of Savoy, and the Englishman John Churchill, the future Duke of Marlborough.

THE RISE OF PRUSSIA

In the middle of the Eighteenth Century most of Europe became embroiled in two successive conflicts, the earlier of which is known as the War of Austrian Succession (1740-1748). This was rapidly followed by the Seven Year's War (1756-1763). The first struggle saw France and the small northeastern German kingdom of Prussia exploit the weakening power of the Austrian Empire which had recently passed to Maria Theresa, daughter of the Emperor Charles VI. The Seven Year's War, during which France forfeited much of North American to England, was fought in Europe primarily to curb the rising power of the Prussian king, Frederick II. Frederick, with a solitary British ally, withstood the onslaught of a half million troop coalition force, which Austria, France and Russia threw against him.

There is certainly no evidence to indicate that Frederick II, who eventually became known as "the Great," was a born soldier. In fact, it appears that the opposite was the case. Raised to be a soldier by his father, Frederick William I (known as the "sergeant-king"), the son developed a loathing for the military profession and applied himself, to his father's disgust, to music, literature, and philosophy. In 1730, the crown prince deserted his regiment, but he was subsequently captured, court-martialed, and sentenced to death by his father. Eventually, political intervention won him a stay of execution, but he was forced to return to the military career he detested. Ironically, under his son's command, the army forged by Frederick William became the military wonder of Europe.

When Frederick II inherited the Prussian Army in 1740, it was already a formidable force of nearly 80,000 men comprising 66 infantry battalions and 114 cavalry squadrons. Frederick's debt to his father was increased by the quality of the troops which he inherited. The sergeant-king had been a fanatical disciplinarian. For thirty years he had kept his troops out of combat, and during that time they had been subjected to an incessant routine of parade drill, inspections, and fire-practice. The infantry, one-third of which were mercenaries while the remainder were forcibly recruited from the lowest social class, had been an unreliable entity. But the king's stern discipline and rigorous training had transformed them into the finest infantry in Europe. The "old Dessauer" (Prince Leopold of Anhalt-Dessau — a veteran of the War of the Spanish Succession) who supervised the infantry's instruction, had introduced the three-rank battle formation and platoon volley system which had defeated the French at Blenheim. The elite Prussian officer corps, drawn strictly from the nobility, had been expertly trained at the king's Cadet College in Berlin which provided the finest military education available in Europe at the time.

The over-all effect of the sergeant-king's attention to his troops had transformed the Prussian infantry into a synchronized machine that could outmarch, outmaneuver, and outfire, any contemporary force in Europe. The sole fault Frederick found in the troops left to him was the over-refined appearance of the infantry which had passed countless inspections but had yet to see combat. This caused Frederick to comment that "if my father and the peace had lasted any longer, the army would have soon adopted rouge and beauty patches."

Six months after he assumed command of the army, Frederick ended the peace by opening a winter campaign in Silesia, then a part of Austria. Maria Theresa sent 20,000 Austrian troops to eject the Prussian invaders. In April of 1741, Frederick's army was put to an initial test at Mollwitz on the Oder River south of Breslau. As it turned out, the army outperformed Frederick's expectations. When at the beginning of the battle the Prussian cavalry was scattered by the Austrian horse, Frederick abandoned the field feeling that he had fought his first and last battle on the same day. A few hours later, however, Frederick learned that the steady Prussian infantry had forced the Austrians off the field. After Mollwitz, Frederick's career as a general began in earnest. Defeating the Austrians a second time at Chotusitz in Bohemia in 1742, Frederick was able to conclude a peace by which Prussian took possession of Silesia.

In 1743, Maria Theresa won alliances with England, Holland, Hanover, and Saxony, all of which supplied troops to counter the French armies' operations on the Rhine. Meanwhile, the Prussian army returned to drill and training. Throughout his career, in the brief intervals at which he was not at war, Frederick continued increasing and improving his army. Between 1740 and 1743, Frederick recruited fifteen new two-battalion regiments of infantry. He also began to reorganize and increase the Prussian artillery. First, he attacked two three-pound guns to each infantry battalion. He also increased the number of twelve-pound battery guns from sixty in 1740 to more than 500 in 1748, the same year in which he introduced horse artillery, a concept he borrowed from his Russian adversaries. Similarly, he added numerous dragoon and hussar regiments to his cavalry which steadily improved in quality after their poor initial showing at Mollwitz.

When, in 1744, the war between France and Austria turned in Austria's favor, Frederick, not wishing to be left in lone opposition to Austria, reinvaded Bohemia, taking Prague in September. Then, abandoning his vital communications artery, the Elbe River, Frederick's army was soon put out of supply by the Hungarian light troops employed by the Austrians. For much of his career Frederick failed to recognize the value of the irregular Croat and Pandour infantry and Hungarian hussars which Austria used to wage a guerrilla war against the Prussian supply convoys. Gradually, however, Frederick responded by creating a number of "Frei Korps" of irregular infantry and Bosnian hussar regiments which operated against the enemy's communications in much the same manner as the Russian cossacks were used during the Napoleonic Wars. Frederick also formed light infantry contingents known as "Jagers," which in 1760 were equipped with rifled carbines and were beginning to be used as sharpshooters. In general, however, Frederick trailed his Austrian enemy in the employment of light troops. By the third quarter of the Eighteenth Century, most European armies were employing some type of light infantry as skirmish troops in battle, while light cavalry became the primary reconnaissance force of these armies.

In 1745, three important battles again turned the war against Austria. In May, the French marshal Maurice de Saxe (the originator of the cadenced march step and the first advocate of a division-sized permanent infantry formation) defeated the Duke of Cumberland's British and Hanoverian army at Fontenoy on the Scheldt River in the Netherlands. At the beginning of June, Frederick won a resounding victory over a combined Austrian and Saxon army at Hohenfriedberg in Silesia. In September, Frederick's advance into Bohemia was stopped by an Austrian night attack on his camp at Sohr. On the following day, however, Frederick cleared the remaining Austrians from his path by launching an oblique attack against the left flank of the Austrian army commanded by the Austrian marshal Prince Charles of Lorraine. The first employment of Frederick's "attack en echelon" at Sohr resulted in a Prussian victory against an army nearly twice as strong as Frederick's force. Henceforth, this tactic became Frederick's ace card which he would play from his sleeve whenever circumstances permitted. Before the end of 1745, a third Prussian victory, this time over the Saxons at Kesseldorf in Saxony, forced Maria Theresa to relinquish Silesia to Frederick for a second time. Following the Treaty of Dresden signed on Christmas Day 1745, Frederick's Silesian Wars were ended, although the war between Austria and France continued for another three years until an accord between the two belligerents, known as the Treaty of Aix-la-Chapelle, was signed in 1748 ending the War of Austrian Succession.

By 1756 Prussia, with a population of about four million inhabitants, possessed a 150,000 man standing army. Yet this appeared a trifling sum compared to the coalition which Maria Theresa had created to avenge herself against the upstart Prussian monarch who had defeated her nine years earlier. In the next struggle Prussia, with limited support from the Hanoverian British government, would be beset by the combined strength of Austria,

Linear Tactics and Weapons (1670-1760)

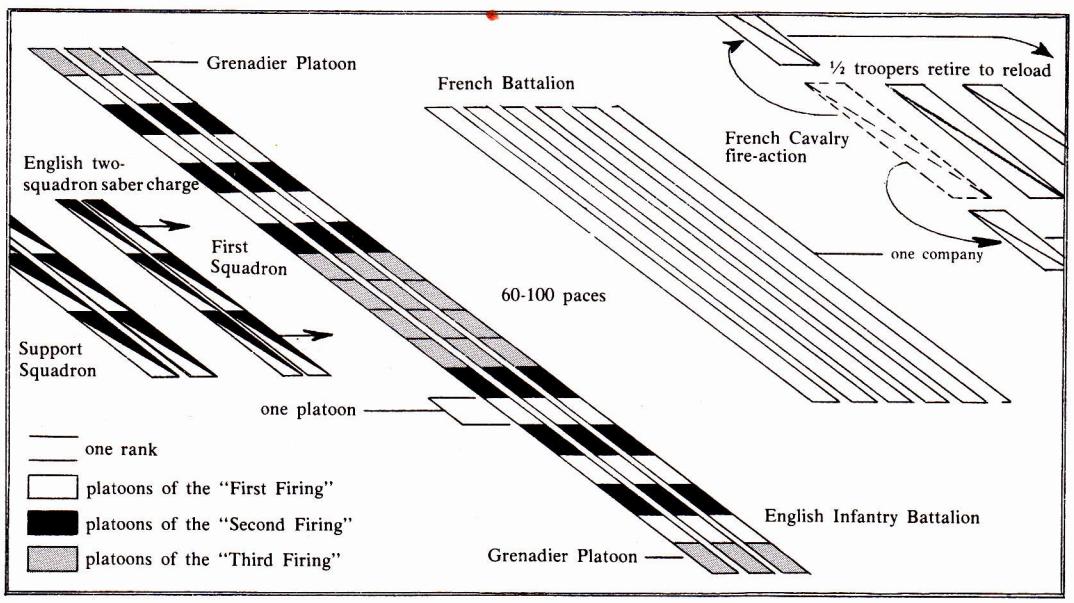
Due to the introduction of two new weapons in the latter half of the Seventeenth Century, battles became far bloodier than had previously been the case. In 1670, the French infantry began to be issued flintlock muskets with which they achieved a rate of fire of two rounds per minute, twice the rate possible with the matchlock weapon. The second new weapon, also a French innovation, was the bayonet. The bayonet progressed through two unacceptable versions. The plug-bayonet which was fitted inside the muzzle and therefore prevented the musket from being fired; and the ring-bayonet which slipped around, and frequently off, the muzzle. Its final form, the socket-bayonet, slipped around the muzzle and was fastened in place by a clamp. This last version came into widespread use during the 1690's. Equipped with a musket and socket-bayonet, a single infantryman now carried both a fire weapon and a shock weapon in a single arm. It was this fusion which rendered the pike obsolete. In 1651, one half of the strength of a French battalion carried pikes, but by 1703, the battalion had become a pure musket formation.

This growth in the battalion's firepower led to a reduction in the depth of infantry formations. By 1703, a French battalion of 500 men was divided among twelve or thirteen companies of between 40-50 men apiece. These were deployed into a four or five rank line with a 100 yard frontage on the battlefield. The battalion's musket fire was delivered at a point-blank range of about 50 yards, and it was highly lethal against the compact target of an enemy battalion drawn up in a similar "close-order" or shoulder-to-shoulder formation. The French battalion employed a system in which each successive rank fired a separate volley. Generally, the front rank knelt, the second crouched, and the third stood upright. This meant that the rear two ranks could not fire at all. Therefore, a French alternative system required that all ranks except the rearmost kneel. The rearmost rank fired first. Proceeding toward the front, one rank at a time rose and fired until all ranks had fired and were standing upright, by which time the rearmost rank had reloaded and was ready to fire again.

During the War of the Spanish Succession, the English troops of the Duke of Marlborough employed a far more effective system of volleying by platoons. Marlborough's battalions, which were organized much like the French battalions, drew up for battle in a formation that was only three ranks deep. This depth allowed all three ranks to fire simultaneously. The English battalion was divided into 18 sections of roughly 30 men apiece. According to a pre-arranged system, six of these sections, which were scattered along the entire length of the battalion, would simultaneously issue fire. Following this, another six sections would deliver a volley after which the last six sections would fire. Thus the English battalion would have one-third of its strength firing in unison against only one-fifth of the French battalion. The effect of the English fire was also assisted by the slightly heavier ball fired by the British William III Land Musket, which weighed a full ounce against the French musket-ball which was a third of an ounce lighter. In the early Eighteenth Century a musketry duel produced such a withering fire against the tightly packed ranks of the opposing battalions that a unit could seldom withstand the duel for more than two or three minutes. By that time the battalion which had suffered more grievously could be easily forced backward when the enemy unit began a bayonet advance against them. Thus the morale of a unit usually determined its performance. Instances of hand-to-hand combat between infantry units had become a thing of the past.

The French use of cavalry also differed significantly from the way in which Marlborough employed his mounted arm. The French tended to regard cavalry as an instrument of mobile firepower. Essentially both the French and the English employed two types of cavalry; the Horse (or heavy cavalry) in which each trooper was equipped with saber and pistols, and the Dragoons who carried a shortened carbine-musket and primarily fought dismounted. A French cavalry regiment consisted of four squadrons of 100-150 troopers each. In battle, the French cavalry regiment would be divided into two columns, each of which had a frontage of fifty troopers and a depth of six ranks. The French cavalry columns operated like the reiter cavalry. The column would slowly advance to within 15 yards of the enemy cavalry. It would then halt and begin a caracole, delivering pistol fire before closing with the enemy in a saber-melee. In contrast, Marlborough followed Gustavus Adolphus' example by employing his cavalry as a shock-force. Marlborough's troopers were issued only three fire-rounds per man for the duration of an entire campaign, and this ammunition was to be used only for sentry duties. On the battlefield, Marlborough spread his cavalry regiments into two long lines, each of which had a depth of two ranks and a frontage of 150 troopers. Each double-ranked line charged the enemy at a fast trot using the impact of their sabers and the enveloping ability caused by their wider frontage to defeat the compact and nearly stationary French formations.

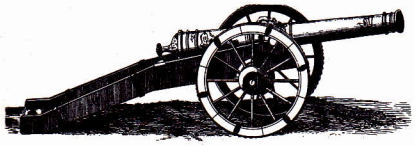
In spite of the increasing firepower of the infantry, cavalry was the arm which decided Marlborough's battles. This was

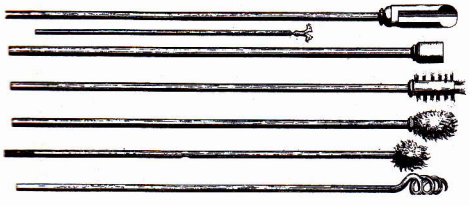


English vs. French: Infantry and Cavalry Tactics in the early 18th Century

Notes: The Duke of Marlborough deployed an English infantry battalion in three ranks. The battalion was divided into eighteen fire platoons which gave fire in three successive volleys or "firings." Each firing was conducted by six platoons scattered down the entire length of the battalion. Whereas one-third of the English battalion fired simultaneously, the French battalion drawn up in five ranks each of which fired individually, fired with only one-fifth of its strength at a time. In a firefight Marlborough's battalions usually prevailed. Marlborough also employed his cavalry as a shock force against the French troopers which used a caracole-like tactic.

because the infantry had not yet adopted a cadenced step to help maintain the rigid linear formations in which they were trained to move and fight. The infantry moved far too slowly to be of use at the decisive moment at which a battle could be won by applying pressure against a single point in the enemy line. Marlborough recognized this, and he therefore maintained a strong cavalry reserve which he usually used to pierce the enemy center after his infantry attacks had drawn the enemy's reserves to both flanks of his line of battle.





During the late Seventeenth and early Eighteenth Century, artillery remained a cumbersome weapon more useful for siege-work than for battle. Marlborough, however, adopted another of Gustavus' ideas by attaching two light three-pounder guns to each of his infantry battalions. The larger caliber guns that were occasionally used on the battlefield were still immobile, Therefore, Marlborough took exceptional care in deploying these guns before an action commenced. A defeat in battle usually meant the forfeiture of the costly pieces. Later in the Eighteenth Century, Frederick II of Prussia finally gave artillery a tremendous boost with two major innovations. First, he developed the concept of horse-artillery as opposed to horse-drawn artillery. Horse-drawn artillery was pulled onto the battlefield by horse-teams and was then situated in a position where it remained throughout the battle. Frederick's horse artillery was a totally mounted arm which maneuvered on the battlefield like a cavalry unit. Frederick's second artillery innovation was his development of indirect howitzer fire which he used against enemy reserves which had hitherto been shielded from enemy fire by intervening trees and hills.

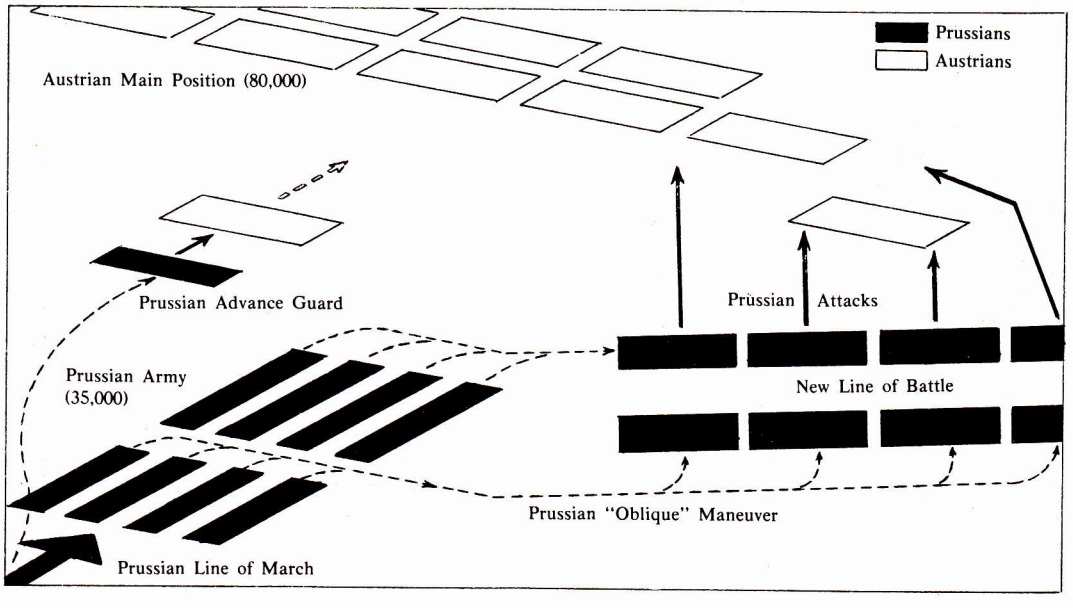
But it was the Prussian infantry of the War of the Austrian Succession and the Seven Year's War that made Frederick's army the new military wonder of Europe. In fact, the development of the Prussian infantry into the most effective military instrument of the Eighteenth Century was more the accomplishment of Frederick William I, the father of Frederick the Great. During his reign (1713-1740), the Prussian infantry benefitted from two inventions which together doubled their rate of fire. In 1719, Prince Leopold of Anhalt-Dessau (who had served under Prince Eugene at the battle of Blenheim) introduced the use of a double-ended iron ramrod to replace the wooden stick used to push the ball and powder down the musket-muzzle. About the same time, the Prussian musket was improved with a funnel-shaped touchhole which eased the operation of priming the musket. These two simple technical improvements greatly increased the speed with which the musket could be reloaded. To fully develop this new potential firepower, Frederick William I subjected his infantry to an unprecedented routine of march and fire-drill until they maneuvered faster than any infantry in Europe, and fired three to four rounds per minute, doubling the rates accomplished by the French and Austrians. When Frederick II inherited the nearly perfect war machine his father had developed, he retained the rigorous discipline and arduous training that welded an infantry battalion into a weapon which functioned with a clock-like precision. Organized into five musketeer and one grenadier (elite) companies, each of 120 men, the campaign strength of the Prussian battalion averaged about six hundred men.

Frederick's grand tactic, known as the Oblique Order, or the attack "en echelon," was based on his recognition that the linear formations employed in Eighteenth Century battle were extremely vulnerable to flanking attacks. Therefore, when approaching a deployed enemy army, Frederick exploited his troops' superior mobility by quickly transferring a large portion of his own army to launch an attack against one of the enemy's flanks before the enemy army could change its front.

From the beginning of his reign, Frederick II stressed mobility, even more than firepower, as the means for destroying the ponderous enemy armies weaned on positional warfare. In 1754, the Prussian infantry adopted the cadenced, or rhythmical, step which allowed them to double their march speed without disrupting the perfect order of their ranks. Next, Frederick's infantry was trained to fire while on the move. Each battalion became a walking battery that maneuvered and fired with an apparently blinding speed. It was this combination of training, discipline, and the great mobility of his infantry which enabled Frederick to defeat armies twice as strong as his own, as he did at Rossbach and Leuthen in 1757.

Frederick the Great's "Oblique Attack" vs. Austrians at Leuthen, 1757 (Stylized)

Notes: Frederick's "Oblique Attack" was most successful against the Austrian Army at the Battle of Leuthen (6 December 1757). West of the main Austrian position a ridgeline concealed the rapidly executed Prussian march which ended in the Prussian assault of the extreme left flank of the five mile long Austrian line of battle. By nightfall the Prussians had taken 21,000 Austrian prisoners. The battle earned Frederick his reputation as the greatest tactician of the Eighteenth Century.



The Blenheim Campaign

By the turn of the Eighteenth Century, Louis XIV had increased French territory and prestige to a degree that Napoleon Bonaparte would only briefly surpass a century later. The French court at Versailles was the envy of Europe. Scores of lesser princes imitated the Sun King while even greater numbers were intimidated by him.

In November of 1700, the Spanish monarch Charles II died, bequeathing his kingdom (then encompassing Spain, the Spanish Netherlands, parts of northern Italy, and possessions in the New World) to Louis XIV's grandson who was also a distant heir to the French crown. When Louis accepted this inheritance he reneged on an earlier treaty by which he had agreed to partition the Spanish dominions between his grandson and a second claimant, the son of the Holy Roman Emperor, Leopold I. Thus the question of the Spanish succession brought Europe to war. Neither England and Holland, which sought to check French power, nor the Empire, entitled to share the Spanish inheritance, would allow Louis to gain the Spanish lands in their entirety.

In early 1701 Louis sent his grandson to ascend the Spanish throne and sent his army to seize the Dutch-garrisonned forts in the Spanish Netherlands. Because England had no standing army to transfer to the Continent, the Dutch were forced to surrender a string of barrier fortresses guarding the important waterways of the Meuse, Scheldt, and Rhine rivers. This left Holland vulnerable to a French invasion in the following year. Meanwhile, France was secured against a counterthrust by the construction of seventy miles of continuous field fortifications (known as "The Lines of Brabant") which linked the fortified towns of Antwerp and Namur. In reaction to Louis' seizure of the Dutch forts, on 15 May 1702, England, Holland, and the Empire formed "The Grand Alliance" which declared war on France. An English general, John Churchill, was appointed to command the allied armies.

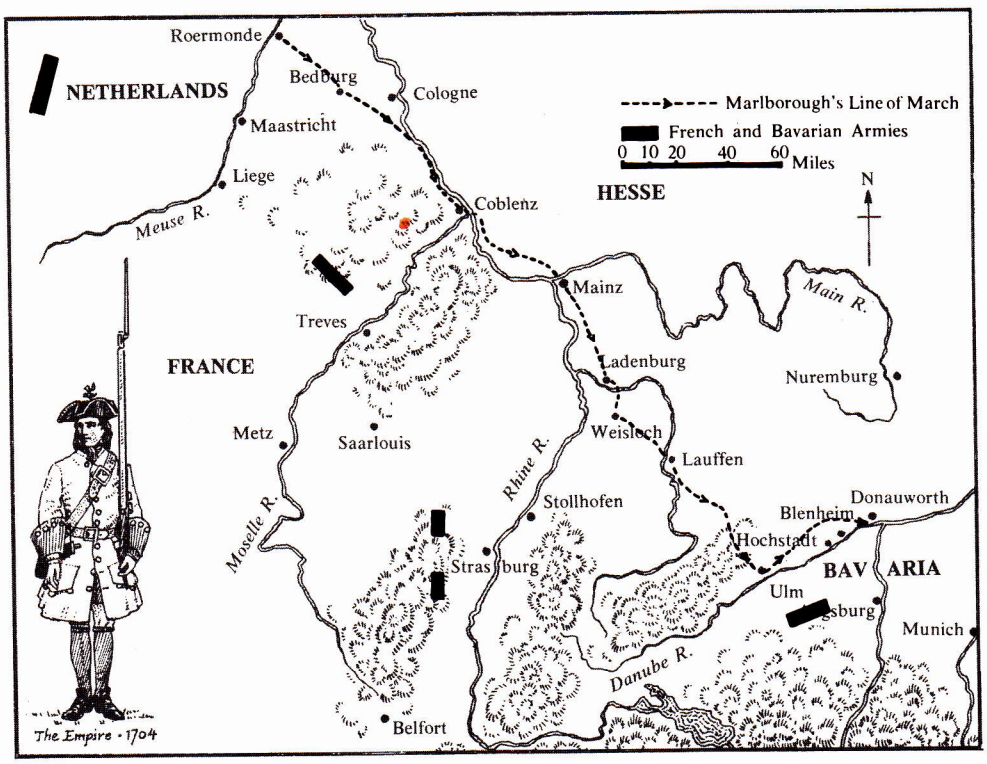
In 1702, Louis made his major effort in northern Italy where he sent his general, Vendome, to oppose an imperial army commanded by Prince Eugene of Savoy. In the northern theater of the Netherlands, Churchill's Anglo-Dutch army faced a second French force commanded by the French general Boufflers. Churchill immediately demonstrated a strong offensive style aimed at bringing his enemy to battle as rapidly as possible. On four different occasions he maneuvered Boufflers into situations in which a battle virtually guaranteed an Allied victory. But on each occasion his Dutch allies prevented him from launching an attack. It quickly became evident that the Dutch were totally unwilling to risk the army that constituted Holland's only means of defense. The Dutch insisted on pursuing the safer course of positional warfare. Within the restrictions his timid allies placed upon hir Churchil took back by siege the mo valuable fortresses on the Meuse. E autumn the Meuse was again a Dutch car and the key forts of Venloo, Ruremond Stevensweert, and Liege, were again und Dutch garrison. In the Netherlands th rivers were the prime arteries for th movement of supplies and siege equi ment. Thus Churchill's first campaig constituted an important victory. Que Anne demonstrated her appreciation rewarding Churchill with the title of t Duke of Marlborough.

The Allied victory in the Netherland however, was diminished when M Emmanuel, the Elector of Bavaria, who lands upon the Danube formed a corrid for a French advance on Vienna, enter the war as a French ally. During the 17 campaign, while the Dutch insisted retaining all of the available English a Dutch troops in the Netherlands, the Alli cause was threatened by a Franco-Bavari drive to capture Vienna and force t Empire out of the war. Fortunately for t Allies, the French operation failed due logistical problems and lack of cooperati between the French commander Villars a the Bavarian Elector.

For the campaign of 1704, Louis X planned to reinforce the 55,000 m Franco-Bavarian army (now commanc by the Elector and the French gene Marsin) with a further 30,000 troops led Marshal Tallard. In the middle of M however, Marlborough wrested the st tegic initiative away from the Fren Leaving 60,000 troops to guard Netherlands, Marlborough, without infor ing his over-cautious Dutch allies, took 21,000 English and German troops paid the English government on a 250-m march into Germany with the intention bringing the Franco-Bavarian force battle and hopefully knocking Bavaria of its alliance with France. Marlboroug march to the Danube was an unparalle achievement in this era of short-ran campaigns necessitated by the stagger logistical problems of supplying an a on the march.

Following the Rhine valley southwa Marlborough's advance forced the Fre onto the defensive as Louis believed English would suddenly wheel westward penetrate France in the Moselle Val When the Dutch were belatedly advise Marlborough's intent, the French had l since ceased to be a threat in the north theater, so 20,000 additional troops w sent to join Marlborough.

The scarlet catepillar, which the Eng army resembled because of the color of their uniforms, proceeded up the Rhine steady pace of 10-12 miles a day. Every day the march was halted to rest troops. As Marlborough had pre-arran the stationing of a continuous networ supply dumps along his route of march, 250-mile strategic movement (rou copied by Napoleon in 1805) was acc plished in a span of only five weeks, a record at the time.



Marlborough's March to the Danube May—August 1704

Notes: By moving his army from the Netherlands to Bavaria between mid-May and mid-June 1704, Marlborough threw France onto the defensive thereby altering the course of the War of the Spanish Succession. On August 13, 1704, the Allied army of Marlborough and Prince Eugene of Savoy defeated a strong Franco-Bavarian army at Blenheim.

In mid-June Marlborough's 40,000 men rendezvoused with 60,000 allied troops commanded by Prince Eugene and Prince Louis of Baden near Gross Heppach in southwestern Germany, a short distance from the Danube and Bavaria. Marlborough now possessed a numerical superiority over the Franco-Bavarian army encamped at Ulm. Of the three allied commanders at Gross Heppach, Marlborough and Eugene were in complete agreement that the time had come to give battle to the enemy. The Prince of Baden, however, was less bold. Fearing that Louis of Baden would curtail his actions as the Dutch generals had, Marlborough craftily agreed to alternate command with him on a daily basis. Eugene was dispatched with 30,000 men to delay the approach of French reinforcements en route from across the Rhine while Marlborough and Baden proceeded to secure a Danube crossing at Donauworth. Reaching the town of Donauworth, which was guarded by the Schellenberg fortress, on an afternoon (2 July 1704) when Marlborough enjoyed full command, the Duke immediately launched an assault lest the opportunity be lost on the following day of Baden's command. The allied attack began almost at dusk. But before darkness, Marlborough's elite 6,000 man grenadier assault force drove the 14,000 man garrison out of its position and across the Danube. The ninety minute battle cost Marlborough almost 6,000 casualties. Of the Schellenberg garrison, only 5,000 rejoined the Franco-Bavarian army at Ulm, which now became Marlborough's next target.

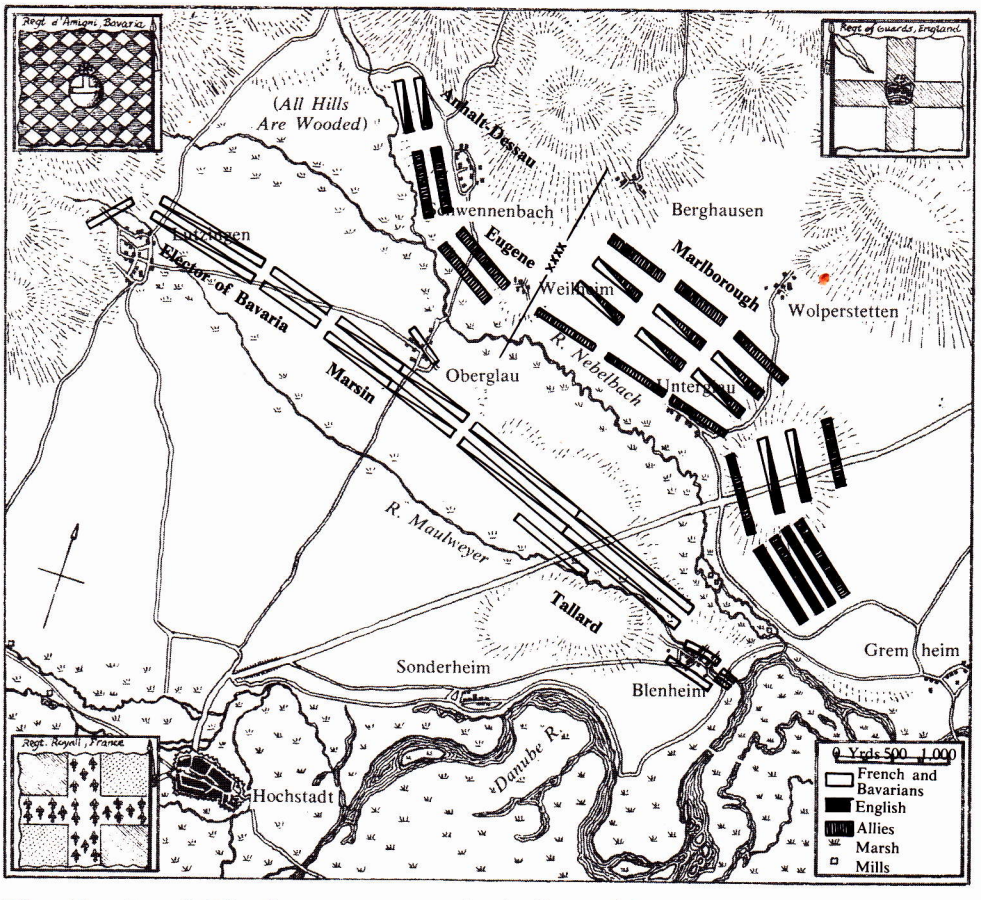
During the next five weeks, however, the Franco-Bavarian army continually evaded Marlborough. Facing an opponent who would neither fight nor negotiate, Marlborough attempted to force the Elector to battle by devastating the Bavarian countryside, burning crops and villages as had the armies of the Thirty Year's War. At last, at the end of July, the Elector received Tallard's French reinforcement which had bullied its way past Eugene's inferior force. Although it was now Marlborough who was outnumbered, he nevertheless sent his worthless joint commander, the Prince of Baden, with 15,000 men to besiege the scarcely valuable town of Ingolstadt. Marlborough then recalled Eugene, who agreed with the Duke that it was worth forfeiting 15,000 men to be rid of the Prince of Baden.

Meanwhile, the Franco-Bavarian army had crossed to the north of the Danube to cut Marlborough's communications with northern Germany. On 11 August, they settled into a strong encampment near the village of Blenheim on the north bank of the Danube. The French commanders Tallard and Marsin, as well as the Elector, assumed that Marlborough and Eugene would be forced to retreat in the face of their army which numbered 56,000 men and 90 guns. Instead, at dawn on 13 August 1704, Tallard saw the Allied army of 52,000 men and 60 guns approaching the Nebel stream barely a half mile from his camp. Unable to believe that Marlborough would attack his superior force, Tallard dispatched his daily report to Versailles noting that the enemy was retiring before the imposing Franco-Bavarian army. By dusk that evening, Tallard and 15,000 of his troops were Marlborough's prisoners.

Tactically, Marlborough demonstrated at Blenheim the formula with which he would again defeat the French in 1706 at the Battle of Ramilles. This formula consisted of unbalancing the enemy line by launching strong pinning attacks on the enemy's flanks. When the enemy had committed his reserves to check these diversionary attacks, Marlborough gathered an overwhelming calvary force which he then launched against the enemy's center. At Blenheim, Marlborough's pinning attacks were made against Blenheim village on the French right flank and Oberglau on the French left. By late afternoon the French center was denuded, Tallard having crammed 27 infantry battalions (12,000 men) into Blenheim. At this point Marlborough rolled 81 cavalry squadrons against the French center, which was broken, leading to the rout of the French Army that had mastered Europe for half a century.

The audacious allied attack at Blenheim reintroduced an aggressive form of war into an era that had become accustomed only to the static doctrines of siege and maneuver for position. During the War of the Spanish Succession, Marlborough went on to complete a quartet of victories against the French armies of Louis XIV. In 1706, he defeated the French general Villeroi at Ramilles after which his strategic pursuit of the French enabled the allies to overrun virtually the entire Spanish Netherlands. In 1708, teamed with Prince Eugene again, Marlborough was victorious over the French army commanded by Vendome at Oudenarde. Finally, in 1709, Marlborough and Eugene won a costly victory against the best of the French generals, Villars, at the Battle of Malplaquet. That battle was the bloodiest battle fought in Europe until 1812 when Napoleon's army clashed with the Russians at the Battle of Borodino.

The combined military talents of Marlborough and Eugene eventually broke the exorbitant power of Louis XIV's France. Frederick the Great considered Eugene the best general of his era. The Duke of Wellington made a similar claim on Marlborough's behalf.



The Battle of Blenheim 13 August 1704

Notes: The Allies had 52,000 men and 60 guns vs. the Franco-Bavarian army of 56,000 men and 90 guns. The French deployed in the typical style of the day; two battle lines with most of the cavalry protecting the flanks. In contrast, Marlborough used four lines; infantry, cavalry, cavalry, infantry. This was done in order that the Allied cavalry could be kept ready to support the infantry during their crossing of the Nebel stream.

Survey of the Major Battles of the Soldier Kings

Date	Battle	Commander(s)	Forces	Troops	Guns	KIA + WIA	Prisoners
	THE WARS OF CHARLES V (1519-1555)						
1525	Pavia	Lannoy	Spanish/Imp.	20,000	?	1,000	
		Francis I	*French*	*18,000*	*?*	*8.000*	—
	THE DUTCH REVOLT (1568-1648)						
1600	Nieuport	Maurice of Nassau	Dutch	7,000	?	2,000	
		Archduke Albert of Austria	*Spanish*	*10,000*	*?*	*3,500*	—
	THE THIRTY YEAR'S WAR (1618-1648)						
1631	Breitenfeld	Gustavus Adolphus/ John George	Swedish/Saxons	42,000	?	2,100	
		Tilly/Pappenheim	*Imperialists*	*36,000*	*?*	*7,000*	*6,000*
1632	Lutzen	Gustavus Adolphus/ Bernard of Saxe-Weimar	Swedish/Germans	18,000	60	10,000	
		Wallenstein/Pappenheim	*Imperialists*	*28,000*	*21*	*12,000*	—
1643	Rocroi	Enghien	French	23,000	?	4,000	
		de Mello	*Spanish*	*27,000*	*18*	*8,000*	*7,000*
	THE WARS OF LOUIS XIV (1661-1715)						
1674	Senef	Conde	French	45,000	?	7,000	
		William of Orange	*Dutch/Spanish/Germans*	*65,000*	*?*	*10,000*	—
1690	Fleurus	Luxembourg	French	40,000	69	3,000	
		Prince of Waldeck	*English/Spanish/German*	*43,000*	*69*	*6,000*	*8,000*
1693	Neerwinden	Luxembourg	French	70,000	80	8,000	
		William of Orange	*Dutch/English/German*	*45,000*	*90*	*19,000*	*1,400*
1704	Blenheim	Marlborough/Prince Eugene	English/Imp./Germans	52,000	60	13,000	
		Tallard/Marsin/Max Emmanuel	*French/Bavarians*	*56,000*	*90*	*20,000*	*15,000*
1706	Ramilles	Marlborough	English/Dutch	62,000	120	4,000	
		Villeroi/Max Emmanuel	*French/Bavarians*	*60,000*	*70*	*12,000*	*7,000*
1708	Oudenarde	Marlborough/Prince Eugene	English/Dutch/Imp.	80,000	32	3,500	
		Vendome/Burgandy	*French/Bavarians*	*85,000*	*50*	*6,000*	*9,000*
1709	Malplaquet	Marlborough/Prince Eugene	English/Dutch/Imp.	100,000	100	24,000	
		Villars/Boufflers	*French/Bavarians*	*90,000*	*60-80*	*9,000*	*3,000*
	THE WARS OF FREDERICK II (1741-1763)						
1741	Mollwitz	Frederick II	Prussians	21,000	60	4,500	
		Neipperg	*Austrians*	*19,000*	*18*	*4,600*	—
1742	Chotusitz	Frederick II	Prussians	28,000	?	5,000	
		Charles of Lorraine	*Austrians*	*30,000*	*?*	*7,000*	—
1745	Fontenoy	Saxe	French	52,000	?	6,000	
		Duke of Cumberland	*English/German*	*50,000*	*?*	*9,000*	*3,500*
1745	Hohenfriedberg	Frederick II	Prussians	70,000	?	4,500	
		Charles of Lorraine	*Austrians*	*60,000*	*?*	*9,000*	*2,500*
1756	Lobositz	Frederick II	Prussians	30,000	98	3,300	
		Browne	*Austrians*	*32,000*	*94*	*2,300*	*700*
1757	Prague	Frederick II	Prussians	64,000	?	13,000	
		Prince Charles of Lorraine	*Austrians*	*70,000*	*?*	*15,000*	—
1757	Kolin	Daun	Austrians	60,000	180	8,000	
		Frederick II	*Prussians*	*34,000*	*100*	*13,500*	—
1757	Gross-Jagerndorf	Apraxin	Russians	80,000	?	9,000	
		von Lehwald	*Prussians*	*30,000*	*?*	*5,000*	—
1757	Rossbach	Frederick II	Prussians	23,000	?	500	
		Hildburghausen/Soubise	*French/Austrian*	*64,000*	*?*	*2,000*	*6,000*
1757	Leuthen	Frederick II	Prussians	35,000	176	6,000	
		Prince Charles of Lorraine	*Austrian*	*80,000*	*235*	*6,700*	*21,000*
1758	Zorndorf	Frederick II	Prussians	37,000	?	11,000	
		Fermor	*Russians*	*50,000*	*?*	*16,000*	*2,800*
1758	Hochkirch	Daun	Austrians	60,000	?	6,000	
		Frederick II	*Prussians*	*37,000*	*?*	*9,000*	—
1759	Kunersdorf	Fermor/Loudoun	Russians/Austrians	66,000	300	17,000	
		Frederick II	*Prussians*	*48,000*	*240*	*15,000*	*5,000*
1760	Torgau	Frederick II	Prussians	50,000	270	14,000	
		Daun	*Austrians*	*50,000*	*360*	*7,000*	*7,000*

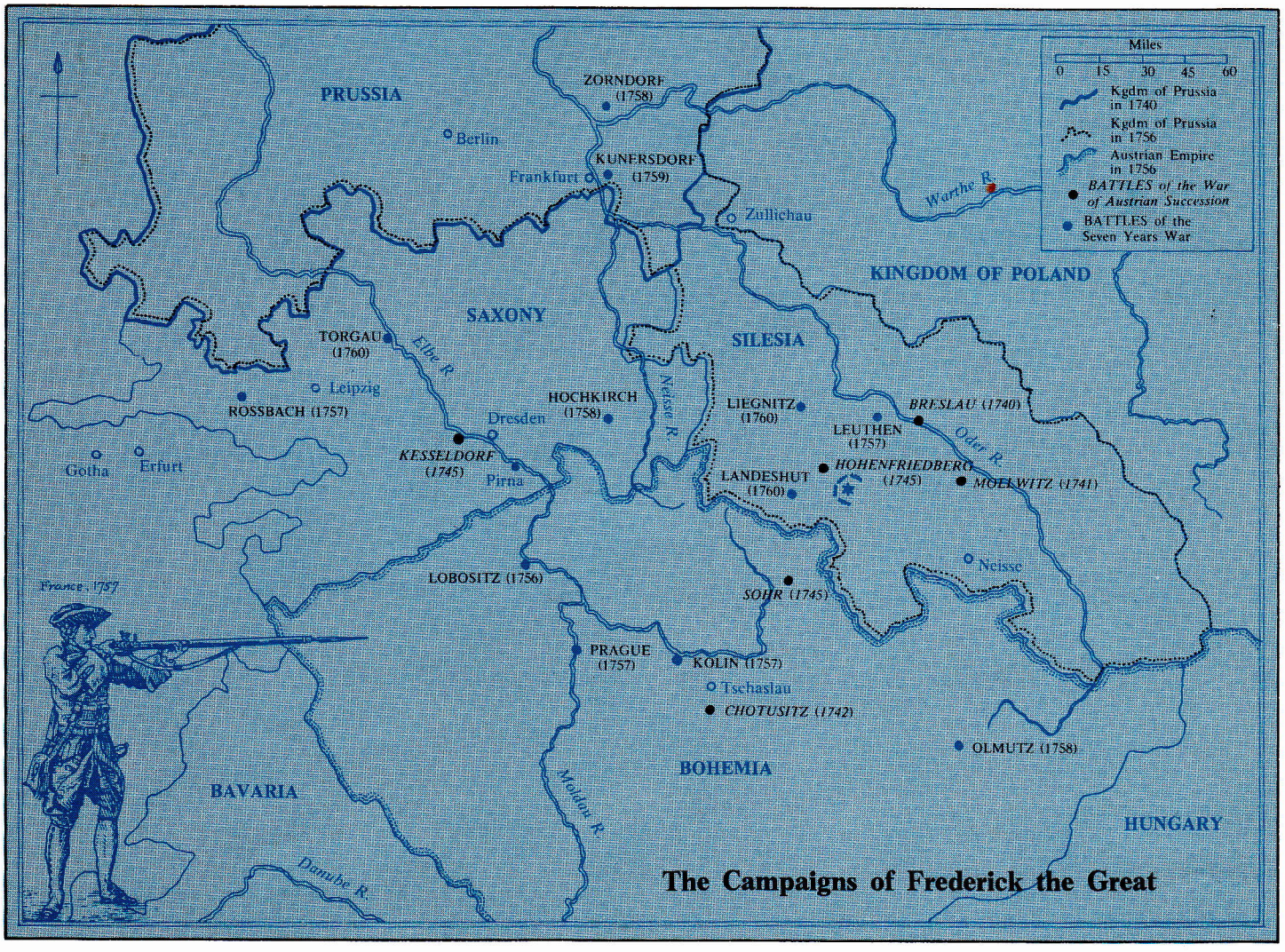
KEY: Losing armies are in *italic.* KIA + WIA = Killed in Action plus Wounded in Action.

France, Russia, Sweden, and many of the principal German states such as Saxony, a coalition of nearly 100 million people capable of fielding 500,000 troops against Prussia.

One look at these odds was enough to stir Frederick into action. The Seven Year's War began in late August 1756 when Frederick took 70,000 of his troops and launched a pre-emptive invasion of Saxony, hoping to defeat his least threatening foe first. Marching down the Elbe River, Frederick caught some 18,000 Saxon troops in their entrenched camp at Pirna, not far from the Bohemian border. Quickly laying siege to the Saxon camp before an expected Austrian army could join the Saxons, Frederick forced the Saxon army to capitulate. Frederick's terms for the Saxon's surrender allowed him to draft 14,000 Saxon troops into the Prussian army.

By the middle of October, Frederick had met and defeated the Austrian army commanded by Marshal von Browne at the Battle of Lobositz (14 October 1756) on the upper Elbe in Bohemia. Frederick's 1756 campaign bears a striking resemblance to Napoleon's Ulm Campaign of 1805. In two months he had forced one army to capitulate and had defeated a second in battle. He had accomplished this in an era when the largest permanent army organization was the regiment and without even the rudimentary type of general staff which Napoleon possessed. It is no wonder then that Napoleon commented a half century later, "it was not the Prussian army which for seven years defended Prussia against the three most powerful nations in Europe, but Frederick the Great!"

No prior year in European history witnessed more battles than the year 1757. The year of battles saw Frederick confronted by six enemy armies: two Austrian armies, two French, one Russian, and one Swedish. Frederick moved first against the Austrians, giving battle to a 70,000 man Austrian army commanded by Charles of Lorraine at Prague on 6 May 1757. Driving this army into the fortified city, Frederick then attempted to halt Marshal Daun's second Austrian army advancing to relieve Prague. Daun's army was contacted on the Prague-Vienna highway at dusk on 17 June, near the town of Neu-Kolin, about forty miles from Prague. Gathering what intelligence he could, Frederick determined to attack the weaker Austrian right flank in imitation of the tactic that had won the Battle of Sohr. Unknown to Frederick, Daun repositioned his army during the night resulting in his being able to inflict a costly defeat on the Prussians on the following day. The Battle of Kolin (18 June 1757) illustrated how easily Frederick's oblique order attack could be repulsed if it was launched without proper reconnaissance being made beforehand. The Prussian attack at Kolin was also doomed because the entire Prussian approach could be monitored by the enemy commander, Daun, who channeled the reserves necessary to meet the Prussian thrust. Following on the heels of his defeat at Kolin, in July a second Prussian army commanded by General von Lehwald was tortured by a greatly superior Russian force commanded by the Russian Field-Marshal Stepan Apraxin at the Battle of Gross-Jagerndorf (30 July 1757) in East Prussia near Konigsberg. In the breathing time he was afforded due to the lack of cooperation between his enemies, Frederick dramatically reversed the course of the campaign during its second half in the autumn of 1757. On the afternoon of 5 November 1757, Frederick allowed himself to become the victim of his own oblique order tactic only to alter his deployment at lightning speed and thereby inflict an embarrassing defeat on the Franco-Austrian army, jointly commanded by the French general Soubise and the imperial Prince of Hildburghausen. The stunning French defeat at Rossbach exposed the French army's by now rotten core. During the half century since the death of Louis XIV, the army had degenerated under a group of officers who had striven to duplicate the Prussian army's elan without developing the underlying muscle which Frederick's soldiers had long since attained. Following Rossbach, French military theorists wandered for a generation in an abstract wilderness, publishing treatise upon



treatise to describe how (in the opinion of a post-Napoleonic critic) "a commander could lead three men across the gutter without a logarithm table." By the end of the Eighteenth Century, however, a revitalized French army emerged from this intensive self-analysis to produce a revolutionary form of warfare known as "Napoleonic."

In the last month of 1757, Frederick followed up his Rossbach victory with the greatest battle triumph of his career. The Battle of Leuthen, fought near Breslau in Silesia on 4 December, saw Frederick's Prussian troops shatter the left flank of an Austrian army nearly twice as strong as their own numbers. In this battle, which constituted Frederick's greatest display of his oblique tactic, the Prussians bagged a number of Austrian prisoners equal to two-thirds of their own initial strength. Thus Frederick captured a reputation as the greatest tactician of the Eighteenth Century.

For the remainder of the Seven Year's War, Frederick shifted between offensive and defensive strategies to keep Prussia from being overwhelmed by her vastly more numerous enemies. Following a Prussian victory over the Russians at the Battle of Zorndorf (25 August 1758), Frederick and his subordinate commanders lost a string of battles including Hochkirch (14 October 1758), Kunersdorf (12 August 1759), Maxen (21 November 1759), and Landshut (23 June 1760). As in 1757, however, Frederick staved off an ultimate defeat by besting two Austrian armies at the Battle of Liegnitz (14 August 1760) which he followed with another victory over Marshal Daun's Austrians at the Battle of Torgau (3 November 1760).

By the end of 1760, Europe was tiring of this war which appeared as if it might continue indefinitely stalemated between the superior numbers of Prussia's opponents and the superior skill of the Prussian troops enhanced by Frederick's brilliant leadership. In 1762, the new Russian Czar Peter III, an admirer of Frederick, took Russia out of the war. Following this example, the English Monarch George III, concluded a separate peace with France and withdrew all support from Prussia. A defection which thirteen years afterward left England unable to win a single European ally to her cause against the rebellious American colonies. Thus, in 1763 the sole remaining combatants, Austria and Prussia, both exhausted by the inconclusive war, finally reach a peace agreement which for the third time awarded Silesia to Prussia. Foreshadowing the still bloodier wars to follow within a generation, the Seven Year's War consumed a million lives without altering the face of Europe by more than a few miles.

Frederick the Great's contribution to the art of warfare was that he linked the Eighteenth Century strategy of exhausting the enemy by maneuvering to the more modern strategy aimed at the annihilation of the enemy's armed forces. Napoleon considered Frederick a more audacious commander than himself. Yet Frederick waged no war of conquest after his initial campaign in Silesia in 1740-41. Whether this was the result of his Eighteenth Century outlook, or the product of his personal philosophy, remains a mystery. Frederick, an introspective intellectual for all his skill as a warrior, considered war a necessary evil which was rarely justifiable and seldom worth its cost.

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The Thirty Year's War by C.V. Wedgewood, originally published in 1938, has not yet been surpassed as the best English account of that conflict. This well-written work is available in paperback and is most highly recommended for its panoramic view of Europe's most bitterly contested war.

Gustavus Adolphus: A History of Sweden (1611-1632) by M. Roberts is the best English biography of the man generally credited as "the father of modern warfare."

A Manual of Siegecraft and Fortification by Sebastien Leprestre de Vauban, originally published in 1740, has been translated into modern English by G. Rothrock, whose introduction on the nature of Seventeenth Century warfare is as invaluable as the siegemaster's own text on the science of fortification and siegecraft.

Marlborough as Military Commander by David Chandler is a new work by the author of *The Campaigns of Napoleon.* Chandler has again written a thorough account of the ten campaigns of one of history's greatest soldiers.

Frederick the Great on the Art of War, edited and translated by Jay Luvaas, lets the Prussian Soldier-King speak for himself. The book is a compilation of Frederick's numerous treatises on the Art of War originally intended as a course of instruction for his subordinate officers.

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OUTGOING MAIL *(continued from page 2)*

on the tanks. Many of the scenarios involve tanks against anti-tank defenses. We use undifferentiated counters, that is, the counters can represent any one of fifty different tank types included in the game. We thus keep the number of counters needed in the game down to a manageable level as far as our production goes. Each tank is represented by two counters. A bottom one for the body of the tank and a top one representing the turret, which of course can be turned at various aspects. Using the geometry of the hexagonal grid we have developed a fool-proof method of determining which aspect, front, side or rear, of the tank you are shooting at. Each tank is characterized by five numerical factors — front, side, and rear armor, as well as penetration of main gun, and cross country speed. In addition, all tanks are given a high explosive capability against anti-tank guns and infantry. The game uses simultaneous movement and many of the better features of the *Desert War* and *Sniper* game systems.

Another simultaneous movement game coming up is *Frigate,* representing tactical ship-to-ship naval combat from the 17th to the 19th centuries. This game also employs the geometry of the hexagonal grid to solve gunnery and movement problems. The most interesting aspect of *Frigate* is the influence of the wind. Both the direction from which it is blowing and the speed of the wind. *Frigate* is quite a different game in that maneuver becomes as interesting, as well as critical, as the combat itself. Of course, for combat you have to get in pretty close. Each hex in *Frigate* represents 200 meters (nine hexes equal one nautical mile). Each turn represents about 8½ minutes of real time. We have some sixteen scenarios, ranging all the way from ship-to-ship action such as the U.S.S. Constitution vs. the British ship Guerriere, all the way up to the Battle of Trafalgar. We also include optional maneuver and combat rules which employ the actual naval terms used. For most people, *Frigate* should be all they expected it to be. It will be published in June.

In *S&T* 44 there will be another solitaire game, *Operation Olympic,* the hypothetical invasion of Japan in 1945. This game will avoid many of the mistakes made in the *Fall of Rome* game. And it should shed some very interesting light on a very unusual situation.

To be announced in *S&T* 44 is the *Alpha Centauri Campaign* game, our first science fiction game. You will find out more about this game and other games mentioned here in the current issue of *MOVES* magazine.

In the "Soldier Kings" article (in this issue) we have tried to cover a large chunk of history in a fairly short space. This period of history is gaining considerably in popularity, although when compared to the World War II period and the modern period it is still quite small. Hopefully the article will kindle sufficient enthusaism to enable us to do some games on this period. Our one game on this period, *Musket & Pike,* has proven quite popular, despite the obscurity of the period it covers.

In our next issue we will have an article to accompany the game *Tank.* It covers tank-to-tank combat from the 1930's to the present and will deal with many of the lesser known aspects of these operations. The same will be true for the *Frigate* article to appear in that same issue.

Ever since the publication of *Desert War* and *KampfPanzer* we have been receiving the (expected) request to convert the previous tactical armored games to simultaneous movement. This we plan on doing as soon as time, resources, and your enthusiasm permit it. We can convert *Red Star/White Star* and *Combat Command,* but we probably cannot convert *PanzerBlitz.* This is because of the royalties agreement we have with Avalon Hill for *PanzerBlitz.* Part of that agreement specifies that we will not publish or cause to be published anything that will compete with the sale of *PanzerBlitz.* Publishing an updated simultaneous movement *PanzerBlitz* would be directly in violation of those clauses. It would be extremely difficult to manufacture a conversion kit, although we will explore this possibility. We will keep you posted on whatever develops in this area.

We have received some complaints about the difficulty of playing simultaneous movement games solitaire. Naturally, we were a bit surprised at this since we found that playing a simultaneous movement game solitaire is much easier than playing a sequential movement game solitaire. This is primarily because when you play a sequential game solitaire you move one side's pieces and then they are stationary while you move the other side. Whereas in a simultaneous movement game you write the plot for one side, then put it out of your sight and write the plot for the other side. This adds a considerable element of uncertainty because you cannot remember exactly how you had the first side moving while you are plotting the second side. To make things even more uncertain for both sides you can write two plots for the first side, determining which one to use after you have finished the second side's plot. You simply flip a coin or roll a die for the two plots for the first side and then execute the movements for both sides. In addition, it is possible to play a simultaneous movement game without doing any plotting at all...although this takes a little experience. But we were doing this during the playtesting phase of these games' development, and it worked quite well. Of course, one person doing all this writing adds a bit of work to playing these games. But then the pay-off in realism, we find, is well worth the effort.

One aspect of game playing that has become more noticeable to us of late has been the importance of solitaire play. This is partially caused by the fact that many people do not have "live" opponents with which to play the games. Another important aspect, of course, is the fact that most people like to play the games by themselves at least part of the time, if only to study the game and become familiar with it. We are going to try and measure the extent of this problem so far as lack of opponents inhibiting people from playing the games as much as they would like, and getting as much as they would like out of the games.

For those who are curious and have asked, yes we do read all the comments on the Feedback cards. In fact, the good old editor of *S&T* sits down, usually one Saturday afternoon, every two months, and reads through a couple of thousand feedback cards. It's quite a chore. In addition, another member of the SPI staff goes through all the Feedback cards and summarizes the game titles suggested. There are some comments, however, that you should *not* put on your Feedback cards. If you have a customer service complaint, *don't* put it on your Feedback card. Even if you include your name and address on the Feedback card, you are not guaranteed that the complaint will find its way to the Customer Service department. And many people put complaints on the cards and *don't* include their name and address, which makes that useless. We would also appreciate it if you would put one game suggestion only per Feedback card. This makes it easier to compile the overall requests for a new game title.

As you will notice coming with this issue of *S&T,* there is a list of most of the retail stores that carry SPI games. We say "most" because more are being added every month, and in addition, our distributor's record-keeping system is not geared for compiling such lists. We will probably publish another list of retail outlets before Christmas.

We have developed a system for creating articles on tactical notes for games very easily and quickly. This is done primarily by bringing together the developers and playtesters of the game and simply interviewing them and transcribing the interview. And then editing the interview to cut out the extraneous material. Articles of this sort will begin appearing in *MOVES* and eventually we hope to have material like this provided for each game. Experience so far with this system has shown it to be quite good. We'll find out just how good when we get a Feedback response from its first appearance in *MOVES.*

People ask us what is Avalon Hill doing? The reason we haven't mentioned anything about Avalon Hill lately is because they haven't been doing much really. They have a game coming out just about this time called *1776.* It is on the American Revolution. It's quite different from our own *American Revolution* game. It's a hex movement game with each turn representing, we believe, one month. Units are shown as in *American Revolution,* that is, as "change." The game consists of four scenarios, centered about four of the major campaigns of the American Revolution (for example, Saratoga). The campaign game is some 80 turns long. The game uses a rather simple and easy to use combat and movement system. The one error in the game, according to our playtest reports, is that *1776* does not account for the British idiocy factor which was taken care of in our *American Revolution* game in the form of a command control rule. What this lack results in is that the Americans are being constantly pursued and destroyed by the more numerous British forces. From reports received so far, this appears to be a fatal flaw in the game. But these are only a few opinions, and we will wait until the Feedback results are in to see just how well *1776* has dealt with the American Revolution.

In the fall of this year Avalon Hill has a game called the *Third Reich* coming out. It covers essentially the same ground as our own World War II game. While *1776* was designed by Avalon Hill's in-house game designer, Randy Reed, the *Third Reich* is being designed by John Prados. Some of you may remember that John Prados was involved in the design of our *Year of the Rat* game. One of the major differences between the *Third Reich* and *World War II* is that the *Third Reich* depends more upon resources centers for the creation of replacements and reinforcements. We used this system in early versions of our *World War II* game, but found it too cumbersome for the little added realism it brought to the game. Beyond this, the *Third Reich* differs in numerous other small ways which may or may not, in the final product, add up to a meaningful difference between the *Third Reich* and *World War II.* Again, we will have to wait until the Feedback results are in before we can say one way or another how well the *Third Reich* compares with our *World War II* game.

It is good to see Avalon Hill producing two historical games a year. For the past few years they have only been producing one game a year. Producing new games, as we have found, is a good way to increase the sales of all of your games. For those who are afraid that our introduction of games into retail outlets will hurt Avalon Hill, our discussion with major retailers lead us to believe that while Avalon Hill may suffer initially, as they apparently, have, in the long run they will probably be helped by the introduction of our games into the stores. Again, only time will tell. We will keep you posted on this as we do receive semi-annual royalty statements on the four SPI games that Avalon Hill currently has in print (*PanzerBlitz, France '40, Origins of World War II,* and *Outdoor Survival*).

For *Your* Eyes Only!

"For Your Eyes Only" is written by the same people who write Outgoing Mail. Where Outgoing Mail concentrates on what we produce, For Your Eyes Only concentrates on how we produce it. In other words, For Your Eyes Only is something of a peek into the backroom at SPI. And an ongoing explanation of what goes on there and why.

We've had a lot of flak lately from our Canadian and Foreign subscribers because of the surcharges we have been forced to impose upon subscriptions and orders coming from foreign customers. It is our fault that we did not explain why we had to do this in more detail. We explained it primarily as a question of postage and handling. What was not emphasized was that the handling aspect is, in many cases, the more expensive part of the additional cost. All foreign orders and subscriptions, and this includes Canada, require considerably more paper work in order to get them on their way out of the country. In the past, when we were much smaller and much more inexperienced, we were a bit lax with some of this paper work and have gotten into trouble with the customs people of various foreign countries, Canada being one of our biggest headaches. The net result of all this is that we must pay particular attention to the legal requirements for sending goods to foreign customers. This requires the people at SPI to spend much more of their time handling foreign orders than they would for domestic orders. Not only in preparing the documents necessary to ship the item, but also in processing the order. Money coming from foreign countries often does not come in U.S. currency, which means we have to go through considerable hassles with the banks in order to get the money. The surcharges we have imposed do NOT give us any additional profit on foreign orders and subscriptions. They merely enable us to recover the considerable cost that we have been paying in order to fill

foreign orders. In the past we merely absorbed this cost, and in effect, domestic customers were subsidizing foreign ones. Now, with the new surcharges, the foreign customers pay their own way and do not in turn subsidize anybody. In addition, Canadians in particular should keep in mind that they *are* a foreign country. Especially when it comes to sending anything through the mails from the United States to Canada. We wish it weren't so, at least as far as sending orders goes, but that's the way it is. An economic fact of life. If we continue to receive complaints, we will have to compile a more detailed description of what these costs are. In effect, tell you exactly how much we must spend in our payroll in order to take care of all the red tape we run into in servicing foreign orders. Hopefully, foreign customers will accept the fact that international trade is an expensive proposition.

GOOD NEWS FOR CANADIANS & OTHER NON-U.S. CUSTOMERS!

In the past, we were forced to place a stiff surcharge on orders from foreign countries because of extra handling and extra postage such orders required. We're happy to announce that as of 1 April 74 we can substantially reduce these surcharges. This has become possible due to a change in the label "technology" we're using, a streamlining of our handling procedures, the increased level of shipping to foreign customers, and other economies in processing such orders. The savings we thereby realize, we'll pass on to you in the form of the following schedule of greatly reduced surcharges:

SCHEDULE OF SURCHARGES FOR CANADIAN & FOREIGN ORDERS

S&T Subscription:	plus $3.00 per year
MOVES Subscription:	plus $1.80 per year
Game Orders:	plus $2.00 on any order for from one to six games; plus an additional $1.00 for each additional half dozen or fraction of a half dozen over the first six games ordered.
Game Design Equipment:	plus $1.00 for each half dozen boxes, counter sheets, or hex sheets.
Plastic Map Covers:	plus $2.00 per set
S&T or MOVES Back Issues:	plus $1.00 for each six or fraction of six magazines.

Customers are still wholly responsible for any import duties their nation imposes.

Please be aware that these charges are for the average additional handling and postage costs we incur when fulfilling a non-U.S. order. We wish we didn't have to charge you anything extra (since there's no profit at all in these surcharges and the more expensive our merchandise is, the less you'll buy) but if we didn't we'd be selling to you at a dead loss. Even with the surcharges, we still swallow some of the additional cost on foreign orders on many items. Note that the way the surcharges are structured, it is most economical to consolidate your orders into one large order instead of several smaller ones. This is because a large part of our additional cost comes from having to treat foreign orders as a special case, and changes very little with the size of the order.

Now, we wish we'd been able to do this from the beginning and not have had to charge you that hefty "tariff" in the past. Well, we can't wind back the clock and retrieve the money we spent getting the goods to you in the past, but we can make a goodwill gesture to those of you who have paid the old surcharge on a curent subscription to *S&T* or *MOVES* to wit: if you paid the $6 surcharge on a current *S&T* sub, we'll extend your subscription one issue at no additional charge (see below). Likewise, if you paid the $3 surcharge on a year of *MOVES,* we'll extend the sub one issue. If you paid the surcharge on a multi-year sub, we'll extend your sub an issue for every year. *You must tell us, however, that you paid this surcharge and provide some documentation* in order to benefit from this goodwill gesture. If you have a copy of your invoice, or your cancelled check or money order stub (or at worst, the date of your payment) this will be sufficient. You must take this action before 15 July in order to get the extension. Write to SPI, Customer Service.

If you now have an unpaid invoice for the old subscription surcharge in your hands, reduce the charge on the invoice to conform to the new schedule of surcharges and pay us the reduced amount. Make a note on the invoice signalling us that that is why your payment doesn't match the "Balance Due" on the invoice.

Customers should note that these subscription extensions are not a legal obligation on our part; they are a voluntary goodwill gesture being made by SPI to indicate that we care about our Canadian and Foreign subscribers. These subscription extensions cannot be translated into cash or credit nor are they transferrable to other subscriptions or subscribers. We hope our new rates make it possible for you to enjoy more of our products in the future. Thank you for your patronage and your patience with our ever-evolving service.

There's been a misunderstanding concerning the impending separation of back issues from their games. Both the back issues of *S&T* and the games in them will be available for sale. But separately. Nothing is going out of print. The back issues will be available for $3.00 and the games in boxes will be available at the same prices as the rest of our boxed games. This will finally make it possible for the sale of back issues to pay the same share of R&D and other expenses as our regular boxed games.

One subscriber pointed out that while only 4% of *S&T* subscribers wanted the magazine without the games, this did amount to over a thousand people. And surely that should be a large enough number to justify offering *S&T* without the games. Actually, it isn't a large enough number. And the hassle involved in offering game-less subscriptions far outweighs any advantages.

Speaking of money and such, we are continually playing with numbers around here trying to put them to work and whatnot. And we came up with a set of interesting statistics, historical in nature, which we feel you might find interesting. In the four year period (inclusive) 1970-73, SPI took in roughly 1.91 million dollars. In that same period we spent approximately 2.03 million dollars. What did we spend all this money on? Well, it breaks down approximately as follows: current inventory on hand, $200,000 (9.85%); promotion, primarily advertising, $330,000 (16.26%); research and development, namely new games and magazines, $250,000 (12.32%); equipment, namely everything from typewriters to typesetting equipment, $50,000 (2.56%); manufacturing, namely all the goods we have manufactured and shipped to date, $600,000 (29.56%); and processing and shipping, $600,000 (29.56%). You will note that we have spent $120,000 more than we have taken in. This is the debt we carry in order to make the operation go. Actually, we have almost as much as that again in credit available as a reserve against any potential problems. When that reserve gets lower, as it did about six months ago, we start to get a little nervous and burn the midnight oil more often than usual. Currently, the reserve is getting bigger and bigger and we plan to keep it that way. In fact, in the next two years we plan on being *entirely* out of debt (which most business people will tell you is a bit foolish, since *not* using available credit needlessly cripples your potential growth and profitability). We have future plans for using large chunks of credit. But as the saying goes, we have to build a bridge before we can use it.

The R&D Campaign, of course, has produced over sixty games, as well as twenty-five issues of *S&T* and twelve issues of *MOVES*. Plus numerous other miscellaneous goodies. The advertising campaign (promotion) has brought in 23,400 subscribers at an average cost of $14.26 per subscriber. The $600,000 manufacturing cost has produced over 400,000 games as well as hundreds of thousands of magazines, plus tens of thousands of miscellaneous other goodies. The $600,000 processing and shipping bill has paid to keep track of all the money coming in and getting al the stuff out to you, as well as setting up the systems which enable us to handle the delivery of goodies in a more and more efficient fashion. The equipment bill could be larger except that we rent some of our major pieces of equipment, such as our computer system. Our inventory consists of all items on hand that we have not yet sold. This continues to grow by leaps and bounds as we get more and more into the retail end of the business. Just thought you might be interested in some of these things.

We try as much as possible to explain all the ramifications and qualifications to the Feedback ratings for games. Somebody recently wrote in and commented on something that we are well aware of. That is, the attenuation factor of subscribers when they rate a game's complexity rating. In other words, when any game system comes along it's rated fairly high in complexity simply because of its novelty. But as more games are published with this same system, people get used to it and naturally as far as they're concerned the system is simpler. There are ways this can be factored out of the ratings. But it would be another chore for us to do it in the first place. And then we would have to explain it. We would prefer to simply leave things as they are for now and not try and adjust the ratings for one particular group. That is, people who have never played the games of the particular system. A large minority of the game playing public own a large number of games and are thus familiar with most of the game systems we have developed. In addition, we have found that the attenuation factor is not that great.

And in most cases amounts to, at most, a one point decline in the complexity rating of the game for an older established game system.

Older issues of *S&T*, in particular issue 29, have notices in them calling for *S&T* sales reps among subscribers. *This offer is no longer in effect.* This is also the case for many offers in older issues of *S&T*. You have to be careful when reading the old catalog or old issues of *S&T* because, quite frankly, things change.

We get a little flak on our use of the metric system in the magazine. We do in most cases use metric measurements, especially for measuring length and distance. We'll put a feedback question in on this problem. If not in this issue, then in an issue in the near future.

The circulation of *MOVES* magazine has grown enormously in just the past five months. We've made a number of changes in the format of *MOVES*. And this, plus the fact that the good word apparently continues to get around, has led to an enormous increase in circulation. The circulation of *MOVES* is currently about 5,500 and looks like it will easily break 7,000 or more this year. Because of this increasing interest in *MOVES*, we receive letters from people asking us which particular issue of *MOVES* contains information on which particular game. To, hopefully, solve all these problems in one fell swoop, we are going to give you a list of the games covered in the early issues of *MOVES*. Each *MOVES* number will be followed by the games covered in that particular issue. *MOVES* 1: *France 1940; MOVES* 2: *Turning Point* and *PanzerBlitz; MOVES* 3: *Leipzig, Kursk,* and *Napoleon at Waterloo; MOVES* 4: *Soldiers; MOVES* 5: *1812; MOVES* 6: *Normandy; MOVES* 7: nothing; *MOVES* 8: *Afrika Korps; MOVES* 9: *PanzerBlitz; MOVES* 10: *Borodino, Turning Point, Soldiers* and *Flying Circus; MOVES* 11: *"CA", Foxbat & Phantom, Franco-Prussian War, Sniper, Napoleon at Waterloo,* and *Borodino; MOVES* 12: *Red Star/White Star, World War II, Grenadier, Destruction of Army Gorup Center, Solomons Campaign* and *"CA."* We are continually hounded by those people who want more games from the pre-20th century periods. Again, we must say that we do not do more games from the pre-20th century period because not that many people *want* games from the pre-20th century period. As it is, we are almost solely responsible for the publication of the majority of the games from the pre-20th century period. And we will continue this. But the hard facts of the matter are that more people like World War II and post-World War II game areas than like pre-20th century game areas. Whatever the case, you are sure to see at least one or two pre-20th century games from us each year, and hopefully more. All the more reason to send in your Feedback response card.

(continued on page 48)

AH = *Avalon Hill;* SPI = *Simulations Publications;* GR = *Games Research of Boston;* GG = *Guidon Games;* CGC = *Conflict Games Company;* LZ = *Lou Zocchi;* * = *indicates designed by, or originally published by SPI.* "Acceptability" is the overall "popularity" of the game. "% Played" is the percentage who, at one time or another, played the game. "Complexity" is how complex the game is on a 1-9 scale, with 1 the simplest. "Average Game Length" (time to play) is given in hours. Average rating for acceptability is about 6.00; for complexity, 5.00.

GAME RATINGS CHART

Game	*Pub.*	*Pub. Date*	*Accept. Rating*	*% Played*	*Complex. Rating*	*Avg. Game Length*
GREATEST ACCEPTANCE						
1. World War II	SPI	11/73	7.76	10	6.10(E)	3-3.5
2. Sniper!	SPI	9/73	7.38	31	6.90(E)	3-3.5
3. Desert War	SPI	11/73	7.34	11	5.80(E)	1.5-2
WIDE ACCEPTANCE-TO-GREATEST ACCEPTANCE						
4. PanzerBlitz	AH*	10/70	7.25	77	7.04	2-2.5
5. Red Star/White Star	SPI	12/72	7.23	45	6.38	2-2.5
6. NATO	SPI	7/73	7.08	26	5.98	3-3.5
7. PanzerArmee Afrika	SPI	10/73	7.06	80	5.20(E)	2.5-3
8. Borodino	SPI	4/72	6.94	56	2.59	1.5-2
9. France 1940	AH*	4/71	6.93	63	5.78	2.5-3
10. La Grande Armee	SPI	10/72	6.76	16	5.25	3-3.5
11. Soldiers	SPI	8/72	6.73	27	5.51	2-2.5
12. Kasserine Pass	CGC	3/73	6.67	6	4.33	2-2.5
WIDE ACCEPTANCE						
13. Diplomacy	GR	6/61	6.66	42	4.34	6-6.5
14. "CA"	SPI	6/73	6.65	78	4.59	1-1.5
15. Breakout & Pursuit	SPI	12/72	6.64	22	5.36	2.5-3
16. American Revolution	SPI	12/72	6.62	21	4.03	2-2.5
17. Solomons Campaign	SPI	9/73	6.60	18	6.80(E)	2-2.5
18. Napoleon at W'loo (Expansion)	SPI	2/72	6.56	31	3.49	1.5-2
19. Turning Point	SPI	2/72	6.56	24	5.36	2.5-3
20. Richtofen's War	AH	3/73	6.55	31	4.35	0.5-1
21. Winter War	SPI	8/72	6.54	59	4.54	2-2.5
22. Foxbat & Phantom	SPI	6/73	6.54	21	5.41	1-1.5
23. Wilderness Campaign	SPI	12/72	6.50	21	5.36	2.5-3
24. Musket & Pike	SPI	2/73	6.50	12	4.76	2.5-3
25. Ardennes Offensive	SPI	4/73	6.47	20	6.24	3-3.5
26. Kursk	SPI	6/71	6.43	29	5.50	3-3.5
27. USN	SPI	12/71	6.41	49	8.11	6-6.5
28. Bull Run	SPI	9/73	6.39	15	5.40(E)	2.5-3
29. Blitzkrieg Module System	SPI	12/69	6.38	22	6.29	5-5.5
30. Strategy I	SPI	6/71	6.36	33	7.87	6-6.5
31. Moscow Campaign	SPI	8/72	6.36	24	5.54	2.5-3
32. Barbarossa	SPI	12/69	6.35	29	5.16	3.5-4
33. Overlord	CGC	5/73	6.35	6	4.40(E)	2.5-3
MODERATE ACCEPTANCE						
34. Korea	SPI	2/70	6.32	27	5.63	3-3.5
35. El Alamein	SPI	9/73	6.30	17	5.85	2.5-3
36. Grenadier	SPI	12/71	6.26	24	5.81	2-2.5
37. Lee Moves North	SPI	4/73	6.17	17	5.43	2.5-3
38. 1812 (Hex)	SPI	10/72	6.16	18	5.03	3.5-4
39. Austerlitz	SPI	2/73	6.13	13	4.00	2-2.5
40. Afrika Korps	AH	4/64	6.12	64	3.54	2-2.5
41. 1812 (Area)	SPI	10/72	6.12	19	5.30	3-3.5
42. Leipzig	SPI	12/69	6.07	23	5.27	3-3.5
43. Verdun	CGC	11/72	6.06	5	4.67	2.5-3
44. Combat Command	SPI	2/72	6.03	44	6.30	2-2.5
45. Battle of Moscow	SPI	10/70	6.03	24	4.21	2-2.5
46. Normandy	SPI	12/69	6.01	27	5.56	3-3.5
47. Year of the Rat	SPI	12/72	5.97	70	5.13	2-2.5
48. Battle of the Bulge	AH	4/65	5.96	60	4.69	3-3.5
49. 1918	SPI	4/70	5.95	36	4.61	3-3.5
50. Rifle & Saber	SPI	2/73	5.93	16	4.16	2-2.5
51. Luftwaffe	AH*	4/72	5.89	58	5.83	3.5-4
52. Destruction of Army Group Center	SPI	2/73	5.88	76	4.63	2-2.5
53. Stalingrad	AH	4/63	5.88	56	3.94	3-3.5
54. Waterloo	AH	4/61	5.87	51	3.32	2-2.5
55. Blitzkrieg	AH	10/65	5.85	70	5.83	5-5.5
56. Franco-Prussian War	SPI	8/72	5.85	22	5.61	2-2.5
57. Battle of the Marne	SPI	10/72	5.84	13	4.27	2-2.5
58. Spitfire	SPI	4/73	5.77	14	4.68	1-1.5
59. Dark Ages	SPI	10/71	5.74	20	5.13	1.5-2
60. Battle of Britain	LZ	4/68	5.73	40	5.80	3.5-4
61. Alexander the Great	GG	6/71	5.72	8	4.00	2-2.5
62. Napoleon at Waterloo	SPI	12/71	5.68	81	1.62	1-1.5
63. Armageddon	SPI	10/72	5.68	50	4.82	1.5-2
64. Midway	AH	10/64	5.65	56	4.71	2.5-3
65. Phalanx	SPI	10/71	5.57	26	5.30	2-2.5
66. D-Day	AH	4/61	5.51	62	3.93	3-3.5
67. Renaissance of Infantry	SPI	8/70	5.44	23	4.85	2.5-3
68. Origins of World War II	AH*	10/71	5.39	43	3.74	1.5-2
69. Flying Circus	SPI	4/72	5.38	43	3.19	0.5-1
LOW ACCEPTANCE						
70. Grunt	SPI	4/71	5.24	31	4.95	1.5-2
71. Centurion	SPI	12/70	5.20	24	4.70	2-2.5
72. Fall of Rome	SPI	8/73	5.11	77	6.50(E)	3-3.5
73. Gettysburg	AH	6/58	4.95	54	3.10	2-2.5
74. Anzio Beachhead	SPI	4/70	4.83	21	4.09	1.5-2
75. Bastogne	SPI	4/70	4.83	20	6.29	3.5-4
76. Fight in the Skies	GG	4/72	4.78	7	5.30	2-2.5
77. Tactics II	AH	6/58	4.77	44	2.41	1.5-2
78. Lost Battles	SPI	10/71	4.75	27	6.65	2.5-3
79. Flight of the Goeben (Strategic)	SPI	6/70	4.65	18	4.35	1.5-2
80. Scrimmage	SPI	4/73	3.70	76	6.01	1.5-2
81. Kriegspiel	AH	4/70	3.16	51	2.91	1.5-2

Feedback Questions

S&T nr.43 published Mar/Apr 1974

How to Use the Feedback Response Card: After you've finished reading this issue of *S&T*, please read the Feedback questions below, and give us you answers and opinions on the *Feedback Response Card.* The most convenient way to use the card is to hold it directly alongside the list of questions and then write your answer-number in the response-box on the card which corresponds to the question number. Please be sure your answer numbers are legible and be certain that the number of the response-box matches the number of the question you are answering.

Please be sure to answer *all* the questions asked. Cards which are incompletely filled-out cannot be processed. When a question-number has "no question" after it, *do not* write anything in that particular response-box.

What the Numbers Mean: Generally speaking, there are two types of questions asked in the Feedback section: (1) Rating questions, and (2) "yes/no/no opinion" type questions.

Rating Questions: When answering a rating question (such as what you thought of a particular article in this issue) write one number from "0" through "9": "1" is the WORST rating; "9" is the BEST rating, "5" means an AVERAGE rating, and all numbers in-between express various shades of approval or disapproval. "0" indicates NO OPINION or NOT APPLICABLE.

Yes/No Questions: When the question is a "yes or no" question, "1" means YES; "2" means NO (and "0" means NO OPINION or NOT APPLICABLE).

We hope you will use your *Feedback Response Card* as your direct-line to the editors of *S&T.*

QUESTIONS

1. *No question*
2. *No question*
3. *No question*

Questions 4 through 8 ask you to rate the articles in this issue (1=poor, 9=excellent, 0=no opinion).

4. American Civil War (game)
5. The Soldier Kings
6. Outgoing Mail
7. For Your Eyes Only
8. Sackson on Games
9. *No question*
10. *No question*
11. *No question*
12. This issue overall (on a scale from 1 to 9).
13. Was this issue better than the last one?
14. On the basis of this issue would you re-subscribe right now?
15. Was this your first *S&T?*
16. Which level of complexity do you prefer in games? 1,2, or 3=*Napoleon at Waterloo;* 4,5, or 6=*France '40;* 7,8, or 9=*USN.* [In other words, rate your preference on a 1-9 scale using the games indicated as guidelines of complexity.]
17. Your age: 1=13 years old or less; 2=14-17; 3=18-21; 4=22-27; 5=28-35; 6=36 plus.
18. Your sex: 1=Male; 2=Female.
19. Education: 1=11 years or less; 2=12 years; 3=13-15 years; 4=13-15 years and still in school; 5=16 years; 6=17 plus years.
20. How long have you been playing Game Simulations? 0=less than 1 year; 1=1 year; 2=2 years... 8=8 years; 9=9 or more years.
21. What is the average number of hours you spend playing Game-Simulations each month? 0=none; 1=1 hour or less; 2=2-5 hours; 3=6-9 hours; 4=10-15 hours; 5=16-20 hours; 6=21-25 7=26-30; 8=31-40; 9=41 or more.
22. How many game simulations do you possess (having this issue gives you at least one)? 1=1-10; 2=11-20; 3=21-30; 4=31-40; 5=41-50; 6=51-60; 7=61-70; 8=71-80; 9=81+.
23. Did you send in the feedback card for your last issue of *S&T?* 1=yes; 2=no.

Questions 24-26 ask you rate types of wargame "environments" (land, air, and naval). Rate the game "environments" on a scale of 1 to 9. 1=dislike the games in this "environment" to 9=enjoy very much this game "environment."

24. Naval Games
25. Air Games
26. Land Games
27. Pick the ONE area that you would MOST like to see games and articles done about. 1=Ancient (Rome, Greece, Biblical, 3000 BC-600 AD); 2=Dark Ages and Renaissance (600 AD-1600 AD); 3=30 Years War and Pre-Napoleonic (1600-1790); 4=Napoleonic (1790-1830); 5=Civil War/19th Century (1830-1900); 6=World War I (1900-1930); 7=World War II (1930-1945); 8=Post World War II (1945-present); 9=Present and future (anything goes).
28. Our games come in three levels of complexity: simple (*Napoleon at Waterloo*), Intermediate (*Kursk, France '40*), and Complex (*USN, Strategy I*). There are also three scales we use: Tactical (up to 500 men per unit, up to 1,000 meters per hex, each turn represents less than an hour of real time); "Operational" (up to "brigade," or 10,000 men, unit size, up to 5 kilometers per hex and usually one day per turn); and Strategic (everything larger). Choose from the following, the ONE combination of complexity and scale you MOST prefer in a game. 1=Simple-Tactical; 2=Simple-Operational; 3=Simple-Strategic; 4=Intermediate-Tactical; 5=Intermediate-Operational; 6=Intermediate-Strategic; 7=Complex-Tactcial; 8=Complex-Operational; 9=Complex-Strategic.
29. If you have ordered something from us in the last two months we would like to know how long the goods, or word of what was holding them up, took to reach you. 1-received goods or notification in less than two weeks; 2-less than three weeks; 3-took more than three weeks; 4-ordered goods less than two weeks ago and no delivery or notification yet; 5-ordered goods less than three weeks ago and no delivery or notification yet; 6-ordered goods more than three weeks ago and no delivery or notification yet.
30. Are you a lifetime subscriber?
31. Do you play games solitaire? 1=yes, mainly to play with the game or learn from it; 2=yes, mainly because I have no live opponents; 3=no.
32. Would you buy a new *Red Star/White Star* game redesigned for simultaneous movement, incorporating more variety of units and rules as well as locales and scenarios? In other words, a complete revision of *Red Star/White Star?* 1=yes, even though I already own a copy of *Red Star/White Star;* 2=yes, although I do not presently own a copy of *RS/WS;* 3=no, because I already own a copy of *RS/WS;* 4=no, even though I don't presently own a copy of *RS/WS.*

Rate the following proposed game situations on a 1-9 scale with 1,2,3 indicating very little intention to buy the game; 4,5,6 indicating a possibility of buying the game; and 7,8,9 indicating a definite intention to buy.

33. *Saratoga* — The critical 1777 American victory over British forces which changed the course of the war and which was caused primarily by the British "idiocy factor" in conducting the campaign.
34. *The Rise of Rome* — showing the growth of the Roman Empire from 300 B.C. to 300 A.D. A strategic level game.
35. *The War of the Roses* — The House of Lancaster versus the House of York, 1455-1485. A strategic level game of medieval warfare in Britain.

    The Global War — A strategic level game of World War II covering all theatres, and air, land and naval combat. Europe, Pacific, China, North Africa — everything.
37. *Commando* — A man-to-man level game covering various commando-type operations of World War II.
38. *Heartbreak Ridge* — a tactical level game of actions in the Korean War, almost entirely an infantry game.
39. *The Italian Campaign* — An operation level (division/regiment) of the war in Sicily and Italy from 1943-1945.
40. *Viking* — A strategic operational level game of what it was like to have a shipful of Viking warriors and a couple of continents in front of you, ready for plunder.
41. *Paratrooper* — A tactical level game dealing with World War II airborne operations.
42. *The Soldier Kings* — A strategic level game of the wars in Europe from the 16th to the 18th century involving the campaigns of Charles V, Gustavus Adolphus, Marlborough, Louis XIV, and Frederick the Great.
43. *City Defense* — A company level game set in the modern period showing the problems of defending an urban area against a mechanized army.
44. *Dreadnought* — A ship-to-ship level game of the era of the battleship, from the late 19th to the mid-20th century, including World War I and World War II battles.
45. *Sixth Fleet* — The game of hypothetical naval warfare in the Mediterranean between the American Sixth Fleet and the Soviet Fleet and other potential naval enemies.

Rate the following games on a 1-9 scale in terms of how complicated you think it was. A game rated "1" would be something like Napoleon at Waterloo, Borodino *or* Flying Circus. *A game rated "9" would be something like* U.S.N., Lost Battles *or* 1914. *Rate all other games in between as you see fit. "0"=have not played the game.*

46. Sniper
47. Solomons Campaign
48. Bull Run
49. Fall of Rome
50. PanzerArmee Afrika
51. World War II
52. Desert War
53. Sinai

How long does it take you, on the average, to play the following games? For games with multiple scenarios give an average for all games regardless of how long or short individual scenarios are. Use a 1-9 scale with 1=less than an hour; 2=1-2 hours; 3=2-3 hours; 4=3-4 hours; 5=4-5 hours; 6=5-6 hours; 7=6-7 hours; 8=7-8 hours; 9=9+ hours. ?6have not played the game.

54. Sniper
55. Solomons Campaign
56. Bull Run
57. Fall of Rome
58. PanzerArmee Afrika
59. World War II
60. Desert War
61. Sinai

Rate the following two proposed products on a 1-9 scale with 1,2,3 indicating very little intention to buy; 4,5,6 indicating a possibility of buying; and 7,8,9 indicating a definite intention to buy.

62. Binders for *S&T* and *MOVES.* Each binder holds twelve issues. In the binder, each separate magazine has its own "spine" to hold it. On the spine of each binder is embossed *Strategy & Tactics* or *MOVES.* Each binder will sell for $10.

63. A book called *Designing Historical Games* by James F. Dunnigan and the R&D staff of SPI. Over a hundred pages (8½ x 11 inch format) with numerous charts and illustrations. Covers all aspects of designing and producing games, from determining which situation to simulate up to how to present the game graphically. Will sell for $6.00 (and probably be hard cover).

Rate the following games on a 1 (liked very, very little) to 9 (liked very much) scale. Grade 0 if you haven't played the game enough to form a judgment. [Games not published by SPI have their publisher indicated in parenthesis.]

64. U.S.N.
65. Leipzig
66. Phalanx
67. Quebec 1759 (GTG)
68. Napoleon at Waterloo (Basic)
69. Franco-Prussian War
70. Moscow Campaign
71. Soldiers
72. Armageddon
73. 1918
74. Winter War
75. Normandy
76. Year of the Rat
77. 1812 (hex version)
78. 1812 (area version)
79. La Grande Armee
80. Marne
81. Breakout & Pursuit
82. American Revolution
83. Wilderness Campaign
84. Sinai
85. Verdun (CGC)
86. Kasserine Pass (CGC)
87. Overlord (CGC)
88. Battle of Britain (LZA)
89. Decline and Fall (WRG)
90. Hue (SDC)
91. Dien Bien Phu (SDC)
92. KampfPanzer
93. East Is Red
94. War in the East
95. *No question*
96. *No question*

Questions 104-390 are optional. We'd appreciate answers, but you don't have to in order to be able to send in the feedback questionnaire. Questions 104-192 are concerned with rating games on the basis of how playable they are as solitaire *games. Rate them on a 1-9 scale, with 1 indicating you consider the game very unplayable as a* solitaire *game, and 9 indicating that you consider the game highly playable as a* solitaire *game. We have no guidelines to give you, so we simply leave it up to your individual judgement.*

101. *No question*
102. *No question*
103. *No question*
104. Kriegspiel (AH)
105. Scrimmage
106. Flight of the Goeben
107. Lost Battles
108. Tactics II (AH)
109. Fight in the Skies (GG)
110. Bastogne
111. Anzio Beachhead
112. Gettysburg (AH)
113. Fall of Rome
114. Centurion
115. Grunt
116. Flying Circus
117. Origins of World War II (AH)
118. Renaissance of Infantry
119. D-Day (AH)
120. Phalanx
121. Midway
122. Armageddon
123. Napoleon at Waterloo (Basic)
124. Alexander the Great (GG)
125. Battle of Britain (LZA)
126. Dark Ages
127. Spitfire
128. Marne
129. Franco-Prussian War
130. Blitzkrieg (AH)
131. Waterloo (AH)
132. Stalingrad (AH)
133. Destruction of Army Group Center
134. Luftwaffe (AH)
135. Rifle & Saber
136. 1918
137. Battle of the Bulge (AH)
138. Year of the Rat
139. Normandy
140. Battle of Moscow
141. Combat Command
142. Verdun (CGC)
143. Leipzig
144. 1812 (area version)
145. Afrika Korps (AH)
146. Austerlitz
147. 1812 (hex version)
148. Lee Moves North
149. Grenadier
150. El Alamein
151. Korea
152. Overlord (CGC)
153. Barbarossa
154. Moscow Campaign
155. Strategy I
156. Blitzkrieg Module System
157. Bull Run
158. U.S.N.
159. Kursk
160. Ardennes Offensive
161. Musket & Pike
162. Wilderness Campaign
163. Foxbat & Phantom
164. Winter War
165. Richtofen's War (AH)
166. Turning Point
167. Napoleon at Waterloo (Expansion)
168. Solomons Campaign
169. American Revolution
170. Breakout & Pursuit
171. "CA"
172. Diplomacy (GR)
173. Kasserine Pass (CGC)
174. Soldiers
175. La Grande Armee
176. France 1940 (AH)
177. Borodino
178. PanzerArmee Afrika
179. NATO
180. Red Star/White Star
181. PanzerBlitz (AH)
182. Desert War
183. Sniper!
184. World War II
185. Decline and Fall (WRG)
186. Hue (SDC)
187. Dien Bien Phu (SDC)
188. NORAD
189. KampfPanzer
190. East Is Red
191. War in the East
192. Sinai
193. *No question*
194. *No question*
195. *No question*
196. *No question*

Questions 204-390. We would like you to rate the following non-historical adult games on a 1-9 scale with "1" equalling liking the game very little, and "9" equalling liking the game very much. Rate the game "0" if you haven't played it enough to form a judgement.

201. *No question*
202. *No question*
203. *No question*
204. Backgammon
205. Checkers
206. Chess
207. Chinese Checkers
208. Chinese Chess
209. Go
210. Japanese Chess
211. Nine Men Morris
212. Haar Hoolim Perception Games
213. Management
214. Outdoor Survival
214. The Stock Market Game
216. Decisions-Decisions
217. Tripoley
218. Confrontation
219. Bugs and Loops
220. Blacks and Whites
221. The Cities Game
222. Yahtzee
223. The Godfather Game
224. Great Downhill Ski Game
225. Convention
226. Bridgette
227. My Word!
228. New Town
229. Chessword
230. 4000 A.D.
231. Follow the Arrow
232. Teeko
233. Headache
234. Trouble
235. Aggravation
236. Score Four
237. Easy Money
238. Life
239. Stratego
240. Summit
241. Twister
242. Careers
243. Clue
244. Flinch
245. Masterpiece
246. Mille Bornes
247. Monopoly
248. Pit
249. Probe
250. Qubic
251. Risk
252. Rook
253. Sorry
254. Spill and Spell
255. Touring
256. Group Therapy
257. Caveat Emptor
258. Vector
259. Movie Moguls
260. Blockhead
261. Bali
262. Jotto
263. Numble
264. Parcheesi
265. Scrabble
266. Extinction
267. Lensman
268. Acquire
269. Breakthru
270. Executive Decision
271. Facts in Five
272. Feudal
273. High Bid
274. Oh-Wah-Ree
275. Sleuth
276. Stocks & Bonds
277. Twixt
278. Ecology
279. Smog
280. Equations
281. On-Sets
282. Propaganda
283. Wff 'N Proof
284. *No question*
285. *No question*
286. *No question*
287. *No question*
288. *No question*
289. *No question*
290. *No question*
291. *No question*
292. *No question*
293. *No question*
294. *No question*
295. *No question*
296. *No question*
301. *No question*
302. *No question*
303. *No question*
304. Broken English
305. Controlling Interest
306. Deadlock
307. De-Tour

(continued on following page)

FOR *YOUR* EYES ONLY

(*continued from page 45*)

As you know by now, we are into hundreds of retail outlets throughout the country. There are some outlets, however, and these are large ones, that we are not into. These are the discount houses. These are the places where you can get everything in games at less than the normal retail costs. For example, $9.00 Avalon Hill games are available in stores like Toys-R-Us for less than $7.00. The main reason we are not in these stores is that we cannot afford their terms. It's as simple as that. Their terms not only include a larger discount than we can afford, but the large discount houses also have a bad habit of not paying their bills for as long as six months or more. We can't afford that either. Maybe someday when we are "rich" we can afford to deal with operations like this. But in the next year it's not very likely.

The Feedback questionnaire in this issue is a particularly long one. This is because we are handling two rather ambitious projects. One is feedback ratings on the majority of the adult games presently available. Something like a quarter of you are heavily into non-historical adult games. And the majority of you have been at least exposed to a number of non-historical adult games. So as a customer service, and also to satisfy our own insatiable curiousity, we are surveying over 150 of these games. In addition, in response to the results of a feedback question in issue 41, we are surveying you on how adaptable all games are to solitaire play. Over 80% of you expressed an interest in having this aspect of gaming rated.

Other interesting results from issue 41 Feedback concern the old question of are too many games being published. 4% of you felt that too many games are being published. You'd rather see fewer games so that you could get them all. 24% of you felt that fewer games should be published so that the remaining games that are published would be of higher quality. 54% of you felt that no, there are not too many games being published, and the more games that are published, the better the chances are of getting a game that you particularly want to see published. 18% felt that not enough games are being published, and you want as many games as possible, and don't feel that the quality suffers directly in proportion to quantity. This shows us that, while the people are crying about quality versus quantity are a substantial number, they are nonetheless a minority. And a distinct minority at that. The majority of you want more games. We also know, of course, that you want games of higher quality. And this is what we have been trying to do. Produce more games of high quality. We would rather have it all.

On the question of seeing lower rated games dropped, or revised and updated, 13% felt that lower rated gates should simply be dropped from print. 32% felt that these lower rated games should be revised and updated. While 56% felt that it depended too much on the individual game. Because of that 56% rating we are doing some more detailed surveying in *MOVES* feedback and will do additional surveying of different game titles in *S&T* feedback. And based upon that we'll probably proceed to either drop or revise and update lower rated games. This project will take anywhere from six months to a year before you see a tangible result from it.

A few customer service notes. Whenever you have a change of address for a subscription try, if at all possible, to include your mailing label (or a copy thereof) with the change. This makes things a lot easier all around.

If you have a complaint about service, please include your name and address on the outside of the envelope. We have been getting fewer service complaints of late. This is undoubtedly due to the fact that, since mid-December we have been getting orders out the door about a week after we receive them. Recently we were shipping on Thursday orders we had received the previous Monday. All the yelling and screaming here (not to mention a lot of work) has finally paid off. Those of you who have ordered recently will know what we mean. We plan on keeping it up.

If you have game questions or errata requests, please *don't* send them in with complaints. They're liable to get delayed as the service complaint is given higher priority.

We also had a bit of a catastrophe here with a bunch of game questions received in January. One night the cleaning man took a box of letters next to Frank Davis' desk and threw them out. As Frank was out the following day (he was home working on the "Soldier Kings" article) the loss was not discovered until it was too late to recover these letters. We've taken steps to see that this does not happen again, but in the meantime dozens of peoples' game questions have been destroyed. If you sent in a game question in January and have not received a reply, please send it in again if possible. We answer all of these and keep track of the questions as a means of avoiding problems in future games. We're very sorry that this happened, and hope you'll bear with us if you're one of the affected people.

If you ordered something from us you would normally receive it within three or four weeks at the most (or at least receive a notice from us). In some cases (such as items we cannot send UPS, like magazines, or if you live in a non-UPS area) delivery may take up to eight weeks. So don't be impatient. If you just HAVE to know, call SPI between 10 AM and 5:30 PM, Monday thru Friday. Try not to leave complaints on the after hours answering service. If you do send in a service complaint, allow a couple of weeks for a reply. You WILL receive a reply (sometimes only in the form of what you asked for).

For those of you who didn't read for Your Eye's Only last issue, don't be frightened by the eight dollar price tag on SPI games in stores. the SPI Six-Pack is a permanent feature from now on. Which means six dollar games by mail. And whatever other good news we can cook up.

Feedback Results, *S&T* 41

Rank	*Article*	*Rating*
1	War in the East	7.17
2	KampfPanzer (game)	7.07
3	Mechanized Warfare	7.04
4	Outgoing Mail	6.65
5	Sackson on Games	5.45
6	Pass in Review	5.10
This issue (overall)		7.04

Was this issue better than the last? Yes = 65%

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308. Fair Shake
309. Link-Up
310. Nix
311. Pounce
312. Upon-My-Word
313. C&O/B&O
314. Tuf
315. Tufabet
316. Word Power
317. Starlord
318. Trippples
319. Master Mind
320. The Brotherhood
321. The Lib Game
322. Airport
323. Beat Detroit
324. Emperor of China
325. Quadtriple
326. Ad-Lib
327. The Howard Hughes Game
328. Cluster
329. Impasse
330. Tau
331. Cartel
332. Infinity
333. Montage
334. Realm
335. Nebula 19
336. KGB
337. Auctioneer
338. The Boss
339. Trap
340. Scarne Dice
341. Kalah
342. Ninety-Seven
343. Ricochet
344. Perquackey
345. Rack-O
346. Stay Alive
347. Poly-Y
348. Billionaire
349. Boggle
350. Dealer's Choice
351. Fluster
352. Grapple
353. Landslide
354. Square Off
355. Waterworks
356. Carapace
357. Holiday
358. Go for Broke
359. RPM
360. RSVP
361. Scrabble Crossword Cubes
362. Sentence Cube Game
363. Tumble Numble
364. Strato Checkers
365. Strato Tac-Tics
366. Netresults
367. Evade
368. Foil
369. Image
370. Jumpin
371. Mr. President
372. Monad
373. Octrix
374. Ploy
375. Quinto
376. Sum-Up
377. Tryce
378. Venture
379. Population
380. Women's Lib?
381. On-Words
382. Queries 'N Theories
383. Tri-Nim
384. *No question*
385. *No question*
386. *No question*
387. *No question*
388. *No question*
389. *No question*
390. *No question*
391. *No question*
392. *No question*
392. *No question*
393. *No question*
394. *No question*
395. *No question*
396. *No question*

S&T IS GETTING DIVORCED!

As of 3 May 74, back issues of *S&T* will not contain the game originally published with that issue. Only the magazine will be sold as a "back issue" (for $3). Another way of stating it is that the games which originally were published with *S&T* will be sold separately, without the magazine (for $7 each until 1 July; $8 each thereafter).

We've been forced to take this step for economic and logistical reasons (i.e., print scheduling and press time, availability of paper, etc.). Reruns of back issues are extremely expensive (because of the small size of the press run) and place an unfair burden on the profitability of the companion games. In plain-speak, every product has to pay its own way in order to remain available in the market. We hope you understand our position regarding this fact of life and don't think ill of us for being subject to it.